



**BOEING REALTY CORPORATION  
FORMER C-6 FACILITY  
LOS ANGELES, CALIFORNIA**

**TECHNICAL MEMORANDUM**

**STOCKPILE PLACEMENT/DISPOSITION EVALUATION  
STOCKPILES SP-1 THROUGH SP-11**

**To:** Mr. Brian Mossman  
Boeing Realty Corporation  
3855 Lakewood Blvd.  
Building 1A MC D001-0097  
Long Beach, CA 90846

**From:** Haley & Aldrich, Inc.

**Date:** July 19, 2001

**Re:** Stockpile Placement/Disposition Evaluation, Boeing Realty Corporation, Former C-6 Facility – Parcel C, Los Angeles, California

Haley & Aldrich, Inc. is herein providing this technical memorandum to summarize our recommendations regarding the onsite placement and offsite transport of temporarily stockpiled excavated materials at Parcel C of the Boeing Realty Corporation's (BRC's) Former C-6 Facility in Los Angeles, California (subject parcel).

**OVERVIEW/PURPOSE**

Potentially impacted materials identified during demolition monitoring activities have been excavated to expedite potential onsite remediation activities, thus, reducing the potential for affecting the current redevelopment schedule at the subject parcel. These materials were segregated by the location from which they were excavated and by known or suspected chemical impacts. Representative samples collected from these materials were evaluated using human health risk assessment procedures to determine which of the temporary soil stockpiles could be reused onsite and which should be transported offsite to regulated treatment/disposal facilities. The evaluation methodology and the onsite placement/offsite transport recommendations are presented herein.

**IDENTIFICATION OF STOCKPILED SOIL**

Materials, comprised primarily of soils, were identified for excavation based on field observations and the results of in-situ samples collected and analyzed following the Los Angeles Regional Water Quality Control Board (LARWQCB)-approved sampling and analysis plan for the subject parcel and the subsequent LARWQCB-approved addendum and supplements.

Eleven temporary stockpiles (SP-1 through SP-11) were generated from onsite excavations at the subject parcel. Each of these stockpiles is comprised of soil, with the exception of stockpile SP-6, which is comprised concrete. Stockpile SP-10 was divided into 44 segregated stockpile segments. Each of the stockpiles SP-1 through SP-9, and SP-11 contain between 20 and 1,500 cubic yards of soil. Each segment of stockpile SP-10 contains approximately 115 cubic yards of soil.

### **STOCKPILE CHARACTERIZATION METHODOLOGY**

Soil samples obtained from each of the apparently impacted areas from which stockpiles SP-1 through SP-5, SP-7 through SP-9, and SP-11 were generated were used to characterize the associated stockpiled soil. In addition, a soil sample was later obtained from stockpile SP-1 and tested for polynuclear aromatic hydrocarbons (PAHs). It is assumed that these samples represent the maximum concentrations of chemicals detected in their respective stockpile. A representative concrete sample was obtained from stockpile SP-6, and a randomly collected soil sample was obtained from the approximate center of each of the 44 stockpile SP-10 segments. Each of the representative samples for stockpiles SP-1 through SP-11 was tested for suspected chemical constituents following the protocols presented in the LARWQCB-approved sampling and analysis plan for the subject parcel and the subsequent LARWQCB-approved addendum and supplements.

### **STOCKPILE EVALUATION METHODOLOGY**

The stockpile sample results were evaluated using screening human health risk assessment procedures as described in the November 29, 2000 Risk Assessment Work Plan (RAWP) for the subject parcel following the decision process summarized in Figure 1. In addition, maximum volatile organic compound (VOC) concentrations for each stockpile or stockpile segment were evaluated to assess whether VOC concentrations in the stockpiles have the potential to degrade existing groundwater quality.

#### **Human Health Risk Evaluation**

The maximum concentrations detected in each stockpile were separately added to the maximum concentrations detected within each of three areas of subject parcel. These three areas of the subject parcel are identified as the Building 1 Exposure Area, the Building 2 Exposure Area, and the Parcel C Exposure Area (Figure 2). The Building 1 and 2 Exposure Areas are defined by two areas of elevated VOC impacts at and in proximity to former Buildings 1 and 2, respectively. The remaining portion of the subject parcel (Parcel C Exposure Area) contains relatively lower chemical concentrations and/or smaller impacted areas. The risk assessment results for each area were then compared to the LARWQCB- and Office of Environmental Health Hazard Assessment (OEHHA)-approved target risk levels.

#### **Groundwater Protection Evaluation**

Even though shallow groundwater beneath and in proximity to the subject parcel is not used as a domestic water supply, the evaluation conservatively assumed potential downward chemical migration from soil resulting in possible degradation of the Bellflower aquitard to levels greater than the California drinking water standards (i.e. Maximum Contaminant Levels [MCLs]). The assessment was conducted assuming a conservative scenario regarding chemical migration and mixing in groundwater

following approved EPA and LARWQCB methodology and assumptions. This evaluation was conducted by comparing maximum VOC concentrations to site-specific soil screening levels (SSLs) derived from primary MCLs.

Initial site-specific SSLs were derived using the formula presented in Section 2.5 of the EPA document entitled *Soil Screening Guidance: Technical Background Document (TBD)*, dated July 1996, and site-specific geotechnical parameters. The EPA SSL equation is a partitioning formula, which does not account for chemical attenuation during migration in soil or mixing with groundwater. To better represent contaminant migration in the soil column, an attenuation factor of 13 was applied to the initial SSL. This attenuation factor was obtained from Table 5-14 of the LARWQCB's May 1996 *Interim Site Assessment & Cleanup Guidebook*, assuming site-specific average soil particle size distributions, and a distance of 53 feet from soil impacts to the groundwater table (i.e., stockpiled material to be placed onsite at a maximum depth of 12 feet below ground surface (bgs) or shallower, and the water table is located at a depth of 65 feet bgs). An EPA default dilution attenuation factor (DAF) of 20 was also applied to the initial SSL to account for limited groundwater mixing. This EPA default value is presented in the above-referenced July 1996 EPA document, and was used by EPA to develop generic SSLs. The resulting site-specific SSL is, thus, equal to the initial SSL (assuming no soil attenuation or groundwater mixing) multiplied by the product of a soil attenuation factor of 13 and a groundwater mixing factor of 20.

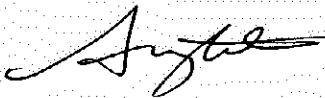
## RECOMMENDATIONS

The recommendation for onsite reuse of each stockpile is based on whether the target risk levels of the area of the subject parcel are exceeded after addition of the maximum concentrations detected in that stockpile and on whether maximum VOC concentrations may degrade groundwater quality to concentrations greater than MCLs. If the estimated risk remains below the target risk levels for that area of the subject parcel and VOC concentrations would not degrade groundwater quality to concentrations greater than MCLs, it is recommended that the stockpile be reused in that area of the subject parcel. If the estimated risk is greater than a target risk level or if VOC concentrations may degrade groundwater quality to concentrations greater than MCLs, it is recommended that the stockpile be transported offsite at a regulated treatment/disposal facility.

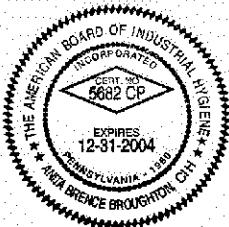
A summary of the recommendations for the stockpiles is presented in Tables 1 and 2. The laboratory data for the stockpile samples is presented in Appendix A, and the SSL calculations are presented in Appendix B.

Should you have any questions concerning the contents of this memorandum or require additional information, please contact either of the undersigned.

Sincerely yours,  
HALEY & ALDRICH, INC.



Anita Broughton, REA, CIH  
Risk Assessment Task Manager



Richard M. Farson, PE  
Senior Engineer



Attachments:

- Figure 1      Soil Stockpile Reuse Protocol
- Figure 2      Parcel C Exposure Areas
- Table 1      Recommendations for Stockpiles SP-1 through SP-9, and SP-11
- Table 2      Recommendations for Stockpile SP-10
- Appendix A    Compact Disc of Laboratory Reports
- Appendix B    Soil Screening Level (SSL) Calculations

**Table 1**  
**Recommendations for Stockpiles SP-1 through SP-9, and SP-11**  
**BRC Former C-6 Facility, Los Angeles, California**

Stockpile No.	Sample IDs	Approx. Volume	Analyses	Acceptable for Onsite Reuse? (Yes or No)	Restrictions on Parcel C Placement?	Recommendations
SP-1	Build-1-A-4-120100-2, Build-1-A-4-112900-1, Build-1-D-3-120400-1, Build-1-J-4-121500-1, Build-1-J-4-121500-2, Build-1-J-4-121500-3	~ 700 cy	TPH, VOCs, PAHs	No	NA	Not acceptable for onsite reuse. TPH concentrations are less than 100 mg/kg, and addition of parameter concentrations result in health risk below target risk levels; however, elevated xylene results pose a potential threat to groundwater quality at levels greater than the MCL.
SP-2	Build-2-AK-13-021901-1	~ 500 cy	TPH, PCBs, PAHs, SVOCs, VOCs, Metals	Yes	Not acceptable for placement in Building 2 Area	Acceptable for reuse in Parcel C with exception of Building 2 Area. Addition of parameter concentrations result in health risk below target risk levels, and detected VOCs do not pose a threat to groundwater quality at levels greater than MCLs.
SP-3	Build-2-AK-17-021501-1, Build-2-AK-17-032701-2	~ 800 cy	TPH, PCBs, PAHs, SVOCs, VOCs, Metals	No	NA	Not acceptable for onsite reuse due to elevated PAH results. Treat/dispose of offsite at a regulated facility.
SP-4	Build-20-M-23-032101-1, Build-20-L-23-032101-2, Build-20-M-23-032201-7	~ 400 cy	TPH, PCBs, PAHs, SVOCs, Metals	No	NA	Not acceptable for onsite reuse due to elevated PAH results. Treat/dispose of offsite at a regulated facility.
SP-5	Source_SP_5_041601_1 through 6	~ 1,500 cy	PCBs, PAHs, Metals	Yes	Not acceptable for placement in Building 1 and 2 Areas	Acceptable for reuse in Parcel C outside of the Building 1 and 2 Areas. Addition of parameter concentrations result in health risk below target risk levels.
SP-6		NA (concrete)	Metals	No	NA	Not acceptable for onsite reuse due to elevated metals results. Treat/dispose of offsite at a regulated facility.
SP-7	Build-2-V-14-042501-1	~ 200 cy	TPH, PCBs, PAHs, SVOCs, Metals	No	NA	Not acceptable for onsite reuse due to elevated PCB results. Treat/dispose of offsite at a regulated facility.
SP-8	Build-2-AD-14-042601-1	~ 200 cy	TPH, PCBs, PAHs, SVOCs, VOCs, Metals	No	NA	Not acceptable for onsite reuse due to elevated PAH results. Treat/dispose of offsite at a regulated facility.

**Table 1**  
**Recommendations for Stockpiles SP-1 through SP-9, and SP-11**  
**BRCA Former C-6 Facility, Los Angeles, California**

SP-9	Build-2-AN-23-051001-1, Build-2-AN-20-051001-1, Build-2-AN-19-051001-1	~ 700 cy	TPH, PCBs, PAHs, SVOCs, VOCs, Metals	No	NA	Not acceptable for onsite reuse due to elevated arsenic results. Treat/dispose of offsite at a regulated facility.
SP-11	Build-1M-10-053101-8	~ 20 cy	TPH, PCBs, PAHs, SVOCs, VOCs, Metals	No	NA	Not acceptable for onsite reuse due to elevated PAH results. Treat/dispose of offsite at a regulated facility.

NA = Not Applicable

PAH risk drivers include benzo(a)pyrene and dibenzo(a,h)anthracene.

**Table 2**  
**Recommendations for Stockpile SP-10**  
**BCR Former C-6 Facility, Los Angeles, California**

Stockpile No./ Sample ID	Approx. Volume	Analyses	Acceptable for Onsite Reuse? (Yes or No)	Restrictions on Parcel C Placement?	Rationale
SP10A-1	~ 115 cy	TPH, VOCs	Yes	None	Acceptable for reuse in any portion of Parcel C. TPH concentrations are less than 100 mg/kg. Addition of parameters concentrations result in health risk below target risk levels, and detected VOCs do not pose a threat to groundwater quality at levels greater than MCLs.
SP10A-2	~ 115 cy	TPH, VOCs	No	NA	Not acceptable for onsite reuse due to elevated PAH results. Sample from this stockpile segment not tested for PAHs; however, results of other samples from this stockpile with similar TPH concentrations contained PAH that resulted in estimated health risks above target risk levels. Treat/dispose of offsite at a regulated facility.
SP10A-3	~ 115 cy	TPH, VOCs	Yes	None	Acceptable for reuse in any portion of Parcel C. TPH concentrations are less than 100 mg/kg. VOCs are less than the laboratory detection limits, and thus, do not pose a health risk above target risk levels nor a threat to groundwater quality at levels greater than MCLs.
SP10A-4	~ 115 cy	TPH, VOCs	Yes	None	Acceptable for reuse in any portion of Parcel C. TPH concentrations are less than 100 mg/kg. VOCs are less than the laboratory detection limits, and thus, do not pose a health risk above target risk levels nor a threat to groundwater quality at levels greater than MCLs.
SP10A-5	~ 115 cy	TPH, VOCs	No	NA	Not acceptable for onsite reuse due to elevated PAH results. Sample from this stockpile segment not tested for PAHs; however, results of other samples from this stockpile with similar TPH concentrations contained PAH that resulted in estimated health risks above target risk levels. Treat/dispose of offsite at a regulated facility.
SP10A-6	~ 115 cy	TPH, VOCs	No	NA	Not acceptable for onsite reuse due to elevated PAH results. Sample from this stockpile segment not tested for PAHs; however, results of other samples from this stockpile with similar TPH concentrations contained PAH that resulted in estimated health risks above target risk levels. Treat/dispose of offsite at a regulated facility.
SP10A-7	~ 115 cy	TPH, VOCs	Yes	None	Acceptable for reuse in any portion of Parcel C. TPH concentrations are less than 100 mg/kg. Addition of parameters concentrations result in health risk below target risk levels, and detected VOCs do not pose a threat to groundwater quality at levels greater than MCLs.
SP10A-8	~ 115 cy	TPH, VOCs	Yes	None	Acceptable for reuse in any portion of Parcel C. TPH concentrations are less than 100 mg/kg. Addition of parameters concentrations result in health risk below target risk levels, and detected VOCs do not pose a threat to groundwater quality at levels greater than MCLs.

**Table 2**  
**Recommendations for Stockpile SP-10**  
**BCR Former C-6 Facility, Los Angeles, California**

SP10A-9	~ 115 cy	TPH, VOCs, PAHs	No	NA	Not acceptable for onsite reuse due to elevated PAH results. Treat/dispose of offsite at a regulated facility.
SP10A-10	~ 115 cy	TPH, VOCs, PAHs	No	NA	Not acceptable for onsite reuse due to elevated PAH results. Treat/dispose of offsite at a regulated facility.
SP10A-11	~ 115 cy	TPH, VOCs	No	NA	Not acceptable for onsite reuse due to elevated PAH results. Sample from this stockpile segment not tested for PAHs; however, results of other samples from this stockpile with similar TPH concentrations contained PAH that resulted in estimated health risks above target risk levels. Treat/dispose of offsite at a regulated facility.
SP10A-12	~ 115 cy	TPH, VOCs	Yes	None	Acceptable for reuse in any portion of Parcel C. TPH concentrations are less than 100 mg/kg. Addition of parameters concentrations result in health risk below target risk levels, and detected VOCs do not pose a threat to groundwater quality at levels greater than MCLs.
SP10A-13	~ 115 cy	TPH, VOCs	No	NA	Not acceptable for onsite reuse due to elevated PAH results. Sample from this stockpile segment not tested for PAHs; however, results of other samples from this stockpile with similar TPH concentrations contained PAH that resulted in estimated health risks above target risk levels. Treat/dispose of offsite at a regulated facility.
SP10A-14	~ 115 cy	TPH, VOCs	Yes	Not acceptable for placement in Building 2 Area	Acceptable for reuse in portions of Parcel C outside of the Building 2 Area. Sample from this stockpile segment not tested for PAHs; however, results of sample SP10B-40 with the same TPH concentration contained PAH concentrations resulting in health risk below target risk levels. VOCs are less than the laboratory detection limits, and thus, do not pose a health risk above target risk levels nor a threat to groundwater quality at levels greater than MCLs.
SP10A-15	~ 115 cy	TPH, VOCs	No	NA	Not acceptable for onsite reuse due to elevated PAH results. Sample from this stockpile segment not tested for PAHs; however, results of other samples from this stockpile with similar TPH concentrations contained PAH that resulted in estimated health risks above target risk levels. Treat/dispose of offsite at a regulated facility.
SP10A-16	~ 115 cy	TPH, VOCs	Yes	None	Acceptable for reuse in any portion of Parcel C. TPH concentrations are less than 100 mg/kg. Addition of parameters concentrations result in health risk below target risk levels, and detected VOCs do not pose a threat to groundwater quality at levels greater than MCLs.

**Table 2**  
**Recommendations for Stockpile SP-10**  
**BCR Former C-6 Facility, Los Angeles, California**

SP10A-17	~ 115 cy	TPH, VOCs	Yes	Not acceptable for placement in Building 2 Area	Acceptable for reuse in portions of Parcel C outside of the Building 2 Area. Sample from this stockpile segment not tested for PAHs; however, results of sample SP10B-40 with a higher TPH concentration contained PAH concentrations resulting in health risk below target risk levels. VOCs are less than the laboratory detection limits, and thus, do not pose a health risk above target risk levels nor a threat to groundwater quality at levels greater than MCLs.
SP10A-18	~ 115 cy	TPH, VOCs	Yes	None	Acceptable for reuse in any portion of Parcel C. TPH concentrations are less than 100 mg/kg. VOCs are less than the laboratory detection limits, and thus, do not pose a health risk above target risk levels nor a threat to groundwater quality at levels greater than MCLs.
SP10A-19	~ 115 cy	TPH, VOCs	No	NA	Not acceptable for onsite reuse due to elevated PAH results. Sample from this stockpile segment not tested for PAHs; however, results of other samples from this stockpile with similar TPH concentrations contained PAH that resulted in estimated health risks above target risk levels. Treat/dispose of offsite at a regulated facility.
SP10A-20	~ 115 cy	TPH, VOCs, PAHs	No	NA	Not acceptable for onsite reuse due to elevated PAH results. Treat/dispose of offsite at a regulated facility.
SP10A-21	~ 115 cy	TPH, VOCs	Yes	None	Acceptable for reuse in any portion of Parcel C. TPH concentrations are less than 100 mg/kg. VOCs are less than the laboratory detection limits, and thus, do not pose a health risk above target risk levels nor a threat to groundwater quality at levels greater than MCLs.
SP10A-22	~ 115 cy	TPH, VOCs	Yes	None	Acceptable for reuse in any portion of Parcel C. TPH concentrations are less than 100 mg/kg. VOCs are less than the laboratory detection limits, and thus, do not pose a health risk above target risk levels nor a threat to groundwater quality at levels greater than MCLs.
SP10B-23	~ 115 cy	TPH, VOCs, PAHs	No	NA	Not acceptable for onsite reuse due to elevated PAH results. Treat/dispose of offsite at a regulated facility.
SP10B-24	~ 115 cy	TPH, VOCs, PAHs	No	NA	Not acceptable for onsite reuse due to elevated PAH results. Treat/dispose of offsite at a regulated facility.
SP10B-25	~ 115 cy	TPH, VOCs	No	NA	Not acceptable for onsite reuse due to elevated PAH results. Sample from this stockpile segment not tested for PAHs; however, results of other samples from this stockpile with similar TPH concentrations contained PAH that resulted in estimated health risks above target risk levels. Treat/dispose of offsite at a regulated facility.
SP10B-26	~ 115 cy	TPH, VOCs, PAHs	No	NA	Not acceptable for onsite reuse due to elevated PAH results. Treat/dispose of offsite at a regulated facility.

**Table 2**  
**Recommendations for Stockpile SP-10**  
**BCR Former C-6 Facility, Los Angeles, California**

SP10B-27	~ 115 cy	TPH, VOCs	No	NA	Not acceptable for onsite reuse due to elevated PAH results. Sample from this stockpile segment not tested for PAHs; however, results of other samples from this stockpile with similar TPH concentrations contained PAH that resulted in estimated health risks above target risk levels. Treat/dispose of offsite at a regulated facility.
SP10B-28	~ 115 cy	TPH, VOCs	No	NA	Not acceptable for onsite reuse due to elevated PAH results. Sample from this stockpile segment not tested for PAHs; however, results of other samples from this stockpile with similar TPH concentration contained PAH that resulted in estimated health risks above target risk levels. Treat/dispose of offsite at a regulated facility.
SP10B-29	~ 115 cy	TPH, VOCs, PAHs	No	NA	Not acceptable for onsite reuse due to elevated PAH results. Treat/dispose of offsite at a regulated facility.
SP10B-30	~ 115 cy	TPH, VOCs, PAHs	No	NA	Not acceptable for onsite reuse due to elevated PAH results. Treat/dispose of offsite at a regulated facility.
SP10B-31	~ 115 cy	TPH, VOCs	No	NA	Not acceptable for onsite reuse due to elevated PAH results. Sample from this stockpile segment not tested for PAHs; however, results of other samples from this stockpile with similar TPH concentrations contained PAH that resulted in estimated health risks above target risk levels. Treat/dispose of offsite at a regulated facility.
SP10B-32	~ 115 cy	TPH, VOCs	No	NA	Not acceptable for onsite reuse due to elevated PAH results. Sample from this stockpile segment not tested for PAHs; however, results of other samples from this stockpile with similar TPH concentrations contained PAH that resulted in estimated health risks above target risk levels. Treat/dispose of offsite at a regulated facility.
SP10B-33	~ 115 cy	TPH, VOCs, PAHs	No	NA	Not acceptable for onsite reuse due to elevated PAH results. Treat/dispose of offsite at a regulated facility.
SP10B-34	~ 115 cy	TPH, VOCs	No	NA	Not acceptable for onsite reuse due to elevated PAH results. Sample from this stockpile segment not tested for PAHs; however, results of other samples from this stockpile with similar TPH concentrations contained PAH that resulted in estimated health risks above target risk levels. Treat/dispose of offsite at a regulated facility.
SP10B-35	~ 115 cy	TPH, VOCs	Yes	Not acceptable for placement in Building 2 Area	Acceptable for reuse in portions of Parcel C outside of the Building 2 Area. Sample from this stockpile segment not tested for PAHs; however, results of sample SP10B-40 with a higher TPH concentration contained PAH concentrations resulting in health risk below target risk levels. Addition of VOC concentrations result in health risk below target risk levels, and detected VOCs do not pose a threat to groundwater quality at levels greater than MCLs.

**Table 2**  
**Recommendations for Stockpile SP-10**  
**BCR Former C-6 Facility, Los Angeles, California**

SP10B-36	~ 115 cy	TPH, VOCs	Yes	Not acceptable for placement in Building 2 Area	Acceptable for reuse in portions of Parcel C outside of the Building 2 Area. Sample from this stockpile segment not tested for PAHs; however, results of sample SP10B-40 with a higher TPH concentration contained PAH concentrations resulting in health risk below target risk levels. Addition of VOC concentrations result in health risk below target risk levels, and detected VOCs do not pose a threat to groundwater quality at levels greater than MCLs.
SP10B-37	~ 115 cy	TPH, VOCs, PAHs	Yes	Not acceptable for placement in Building 1 and 2 Areas	Acceptable for reuse in the portion of Parcel C outside of the Building 1 and 2 Areas. Addition of VOC and PAH concentrations result in health risk below target risk levels, and detected VOCs do not pose a threat to groundwater quality at levels greater than MCLs.
SP10B-38	~ 115 cy	TPH, VOCs	No	NA	Not acceptable for onsite reuse due to elevated PAH results. Sample from this stockpile segment not tested for PAHs; however, results of other samples from this stockpile with similar TPH concentrations contained PAH that resulted in estimated health risks above target risk levels. Treat/dispose of offsite at a regulated facility.
SP10B-39	~ 115 cy	TPH, VOCs, PAHs	No	NA	Not acceptable for onsite reuse due to elevated PAH results. Treat/dispose of offsite at a regulated facility.
SP10B-40	~ 115 cy	TPH, VOCs	Yes	Not acceptable for placement in Building 2 Area	Acceptable for reuse in portions of Parcel C outside of the Building 2 Area. Addition of VOC and PAH concentrations result in health risk below target risk levels, and detected VOCs do not pose a threat to groundwater quality at levels greater than MCLs.
SP10B-41	~ 115 cy	TPH, VOCs, PAHs	No	NA	Not acceptable for onsite reuse due to elevated PAH results. Treat/dispose of offsite at a regulated facility.
SP10B-42	~ 115 cy	TPH, VOCs, PAHs	No	NA	Not acceptable for onsite reuse due to elevated PAH results. Treat/dispose of offsite at a regulated facility.
SP10B-43	~ 115 cy	TPH, VOCs	Yes	None	Acceptable for reuse in any portion of Parcel C. TPH concentrations are less than 100 mg/kg. VOCs are less than the laboratory detection limits, and thus, do not pose a health risk above target risk levels nor a threat to groundwater quality at levels greater than MCLs.
SP10B-44	~ 115 cy	TPH, VOCs	No	NA	Not acceptable for onsite reuse due to elevated PAH results. Sample from this stockpile segment not tested for PAHs; however, results of other samples from this stockpile with similar TPH concentrations contained PAH that resulted in estimated health risks above target risk levels. Treat/dispose of offsite at a regulated facility.

NA = Not Applicable

PAH risk drivers include benzo(a)pyrene and dibenzo(a,h)anthracene.

**APPENDIX A**  
**LABORATORY REPORTS**

SEVERN  
TRENT  
SERVICES

May 30, 2001

STL LOT NUMBER: **E1E240357**  
NELAC Certification Number: 01118CA  
PO/CONTRACT: 004034.00

**STL Los Angeles**  
1721 South Grand Avenue  
Santa Ana, CA 92705-4808  
  
Tel: 714 258 8610  
Fax: 714 258 0921  
[www.stl-inc.com](http://www.stl-inc.com)

Marcia Taleff  
Boeing  
3855 Lakewood Blvd  
Mail Stop D036-0009  
Long Beach, CA 90846

Dear Ms. Taleff,

This report contains the analytical results for the sample received with five other samples from the same site under chain of custody by Severn Trent Laboratories (STL Los Angeles) on May 17, 2001. This sample is associated with your Boeing Parcel C former C6 Torrance Harbor Gateway project.

All applicable quality control procedures met method-specified acceptance criteria. See Project Receipt Checklist for container temperature and conditions. Temperature reading between 2 to 6 degrees Celcius is considered within acceptable criteria. Any matrix related anomaly is footnoted within the report.

STL Los Angeles certifies that the tests performed in our facility meet all the requirements of NELAC. This report shall not be reproduced except in full, without the written approval of the laboratory.

If you have any questions, please feel free to call me at 7142588610 ext 309.

Sincerely,



Diane Suzuki  
Project Manager

cc: Project File

This report contains 000037 pages.

**000001**

STL Los Angeles is a part of Severn Trent Laboratories, Inc.





# **EXECUTIVE SUMMARY - Detection Highlights**

**E1E240357**

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S5-6-051704-1 05/17/01 15:40 001</b>				
Aluminum	232	20.0	mg/L	SW846 6010B
Arsenic	0.20 B,G	2.0	mg/L	SW846 6010B
Barium	5.4	4.0	mg/L	SW846 6010B
Beryllium	0.016 B,G	1.0	mg/L	SW846 6010B
Cadmium	0.050 B,G	1.0	mg/L	SW846 6010B
Chromium	636	2.0	mg/L	SW846 6010B
Cobalt	0.075 B,G	10.0	mg/L	SW846 6010B
Copper	0.54 B,G	5.0	mg/L	SW846 6010B
Nickel	0.29 B,G	8.0	mg/L	SW846 6010B
Selenium	0.23 B,G	1.0	mg/L	SW846 6010B
Vanadium	0.89 B,G	10.0	mg/L	SW846 6010B
Zinc	2.4 B,G	4.0	mg/L	SW846 6010B
Arsenic	4.0 B,G	10.0	mg/kg	SW846 6010B
Barium	107	20.0	mg/kg	SW846 6010B
Chromium	19700	10.0	mg/kg	SW846 6010B
Lead	3.5 B,G	5.0	mg/kg	SW846 6010B
Cobalt	4.9 B,G	50.0	mg/kg	SW846 6010B
Copper	12.8 B,G	25.0	mg/kg	SW846 6010B
Nickel	14.2 B,G	40.0	mg/kg	SW846 6010B
Vanadium	29.4 B,G	50.0	mg/kg	SW846 6010B
Zinc	28.0	20.0	mg/kg	SW846 6010B
Aluminum	9230	200	mg/kg	SW846 6010B

**000004**

## METHODS SUMMARY

E1E240357

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
Inductively Coupled Plasma (ICP) Metals	SW846 6010B	SW846 CAM TITLE
Inductively Coupled Plasma (ICP) Metals	SW846 6010B	SW846 3050B
Mercury in Liquid Waste (Manual Cold-Vapor)	SW846 7470A	SW846 CAM TITLE
Mercury in Solid Waste (Manual Cold-Vapor)	SW846 7471A	SW846 7471A

### References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

000005

# SAMPLE SUMMARY

E1E240357

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
EDXVJ	001	S5-6-051704-1		05/17/01 15:40

**NOTE (S) :**

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

**000006**

## BOEING

Client Sample ID: S5-6-051704-1

## STLC Metals

Lot-Sample #....: E1E240357-001

Matrix.....: SOLID

Date Sampled...: 05/17/01 15:40 Date Received..: 05/17/01 18:00

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
<b>Prep Batch #....: 1149547</b>						
Aluminum	232	20.0	mg/L	SW846 6010B	05/21-05/22/01	EDXVJ1AV
		Dilution Factor: 2		Analysis Time...: 16:05	Analyst ID.....: 003119	
		Instrument ID...: M01		MS Run #.....: 1149307	MDL.....: 0.16	
Antimony	ND G	12.0	mg/L	SW846 6010B	05/21-05/22/01	EDXVJ1AW
		Dilution Factor: 2		Analysis Time...: 16:05	Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1149307	MDL.....: 0.0040	
Arsenic	0.20 B,G	2.0	mg/L	SW846 6010B	05/21-05/22/01	EDXVJ1AX
		Dilution Factor: 2		Analysis Time...: 16:05	Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1149307	MDL.....: 0.0080	
Barium	5.4	4.0	mg/L	SW846 6010B	05/21-05/22/01	EDXVJ1AO
		Dilution Factor: 2		Analysis Time...: 16:05	Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1149307	MDL.....: 0.0020	
Beryllium	0.016 B,G	1.0	mg/L	SW846 6010B	05/21-05/22/01	EDXVJ1A1
		Dilution Factor: 2		Analysis Time...: 16:05	Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1149307	MDL.....: 0.0010	
Cadmium	0.050 B,G	1.0	mg/L	SW846 6010B	05/21-05/22/01	EDXVJ1A2
		Dilution Factor: 2		Analysis Time...: 16:05	Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1149307	MDL.....: 0.0010	
Chromium	636	2.0	mg/L	SW846 6010B	05/21-05/22/01	EDXVJ1A3
		Dilution Factor: 2		Analysis Time...: 16:05	Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1149307	MDL.....: 0.0020	
Cobalt	0.075 B,G	10.0	mg/L	SW846 6010B	05/21-05/22/01	EDXVJ1A4
		Dilution Factor: 2		Analysis Time...: 16:05	Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1149307	MDL.....: 0.0020	
Copper	0.54 B,G	5.0	mg/L	SW846 6010B	05/21-05/22/01	EDXVJ1A5
		Dilution Factor: 2		Analysis Time...: 16:05	Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1149307	MDL.....: 0.0080	

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000007

## BOEING

Client Sample ID: S5-6-051704-1

## STLC Metals

Lot-Sample #....: E1E240357-001

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK
		LIMIT	UNITS			ANALYSIS DATE	ORDER #
Lead	ND G	1.0	mg/L		SW846 6010B	05/21-05/22/01	EDXVJ1A6
		Dilution Factor: 2			Analysis Time...: 16:05	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1149307	MDL.....: 0.0060	
Molybdenum	ND G	8.0	mg/L		SW846 6010B	05/21-05/22/01	EDXVJ1A7
		Dilution Factor: 2			Analysis Time...: 16:05	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1149307	MDL.....: 0.0060	
Nickel	0.29 B,G	8.0	mg/L		SW846 6010B	05/21-05/22/01	EDXVJ1A8
		Dilution Factor: 2			Analysis Time...: 16:05	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1149307	MDL.....: 0.0060	
Selenium	0.23 B,G	1.0	mg/L		SW846 6010B	05/21-05/22/01	EDXVJ1A9
		Dilution Factor: 2			Analysis Time...: 16:05	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1149307	MDL.....: 0.0080	
Silver	ND G	2.0	mg/L		SW846 6010B	05/21-05/22/01	EDXVJ1CA
		Dilution Factor: 2			Analysis Time...: 16:05	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1149307	MDL.....: 0.0020	
Thallium	ND G	2.0	mg/L		SW846 6010B	05/21-05/22/01	EDXVJ1CC
		Dilution Factor: 2			Analysis Time...: 16:05	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1149307	MDL.....: 0.010	
Vanadium	0.89 B,G	10.0	mg/L		SW846 6010B	05/21-05/22/01	EDXVJ1CD
		Dilution Factor: 2			Analysis Time...: 16:05	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1149307	MDL.....: 0.0020	
Zinc	2.4 B,G	4.0	mg/L		SW846 6010B	05/21-05/22/01	EDXVJ1CE
		Dilution Factor: 2			Analysis Time...: 16:05	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1149307	MDL.....: 0.020	
Prep Batch #....:	1149548						
Mercury	ND	0.0020	mg/L		SW846 7470A	05/21-05/22/01	EDXVJ1CF
		Dilution Factor: 1			Analysis Time...: 14:01	Analyst ID.....: 0210887	
		Instrument ID...: M04			MS Run #.....: 1149308	MDL.....: 0.00010	

NOTE (S) :

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

B Estimated result. Result is less than RL.

000008

## BOEING

Client Sample ID: S5-6-051704-1

## TOTAL Metals

**Lot-Sample #....:** E1E240357-001                   **Matrix.....:** SOLID  
**Date Sampled....:** 05/17/01 15:40   **Date Received..:** 05/17/01 18:00

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #....:	1149545					
Arsenic	4.0 B,G	10.0	mg/kg	SW846 6010B	05/19-05/22/01	EDXVJ1AA
		Dilution Factor: 10		Analysis Time...: 03:39	Analyst ID.....:	003119
		Instrument ID...: M01		MS Run #.....: 1149306	MDL.....:	4.0
Antimony	ND G	60.0	mg/kg	SW846 6010B	05/19-05/22/01	EDXVJ1AC
		Dilution Factor: 10		Analysis Time...: 03:39	Analyst ID.....:	0031196
		Instrument ID...: M01		MS Run #.....: 1149306	MDL.....:	2.0
Barium	107	20.0	mg/kg	SW846 6010B	05/19-05/22/01	EDXVJ1AD
		Dilution Factor: 10		Analysis Time...: 03:39	Analyst ID.....:	0031196
		Instrument ID...: M01		MS Run #.....: 1149306	MDL.....:	1.0
Cadmium	ND G	5.0	mg/kg	SW846 6010B	05/19-05/22/01	EDXVJ1AE
		Dilution Factor: 10		Analysis Time...: 03:39	Analyst ID.....:	0031196
		Instrument ID...: M01		MS Run #.....: 1149306	MDL.....:	0.50
Chromium	19700	10.0	mg/kg	SW846 6010B	05/19-05/22/01	EDXVJ1AF
		Dilution Factor: 10		Analysis Time...: 03:39	Analyst ID.....:	0031196
		Instrument ID...: M01		MS Run #.....: 1149306	MDL.....:	1.0
Beryllium	ND G	5.0	mg/kg	SW846 6010B	05/19-05/22/01	EDXVJ1AG
		Dilution Factor: 10		Analysis Time...: 03:39	Analyst ID.....:	0031196
		Instrument ID...: M01		MS Run #.....: 1149306	MDL.....:	0.50
Lead	3.5 B,G	5.0	mg/kg	SW846 6010B	05/19-05/22/01	EDXVJ1AH
		Dilution Factor: 10		Analysis Time...: 03:39	Analyst ID.....:	0031196
		Instrument ID...: M01		MS Run #.....: 1149306	MDL.....:	3.0
Selenium	ND G	5.0	mg/kg	SW846 6010B	05/19-05/22/01	EDXVJ1AJ
		Dilution Factor: 10		Analysis Time...: 03:39	Analyst ID.....:	0031196
		Instrument ID...: M01		MS Run #.....: 1149306	MDL.....:	4.0
Silver	ND G	10.0	mg/kg	SW846 6010B	05/19-05/22/01	EDXVJ1AK
		Dilution Factor: 10		Analysis Time...: 03:39	Analyst ID.....:	0031196
		Instrument ID...: M01		MS Run #.....: 1149306	MDL.....:	1.0

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000009

## BOEING

Client Sample ID: S5-6-051704-1

## TOTAL Metals

Lot-Sample #....: E1E240357-001

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK	ORDER #
		LIMIT	UNITS					
Cobalt	4.9 B,G	50.0	mg/kg		SW846 6010B	05/19-05/22/01	EDXVJ1AL	
		Dilution Factor: 10			Analysis Time...: 03:39		Analyst ID.....: 0031196	
		Instrument ID...: M01			MS Run #.....: 1149306		MDL.....: 1.0	
Copper	12.8 B,G	25.0	mg/kg		SW846 6010B	05/19-05/22/01	EDXVJ1AM	
		Dilution Factor: 10			Analysis Time...: 03:39		Analyst ID.....: 0031196	
		Instrument ID...: M01			MS Run #.....: 1149306		MDL.....: 4.0	
Molybdenum	ND G	40.0	mg/kg		SW846 6010B	05/19-05/22/01	EDXVJ1AN	
		Dilution Factor: 10			Analysis Time...: 03:39		Analyst ID.....: 0031196	
		Instrument ID...: M01			MS Run #.....: 1149306		MDL.....: 3.0	
Nickel	14.2 B,G	40.0	mg/kg		SW846 6010B	05/19-05/22/01	EDXVJ1AP	
		Dilution Factor: 10			Analysis Time...: 03:39		Analyst ID.....: 0031196	
		Instrument ID...: M01			MS Run #.....: 1149306		MDL.....: 3.0	
Thallium	ND G	10.0	mg/kg		SW846 6010B	05/19-05/22/01	EDXVJ1AQ	
		Dilution Factor: 10			Analysis Time...: 03:39		Analyst ID.....: 0031196	
		Instrument ID...: M01			MS Run #.....: 1149306		MDL.....: 5.0	
Vanadium	29.4 B,G	50.0	mg/kg		SW846 6010B	05/19-05/22/01	EDXVJ1AR	
		Dilution Factor: 10			Analysis Time...: 03:39		Analyst ID.....: 0031196	
		Instrument ID...: M01			MS Run #.....: 1149306		MDL.....: 1.0	
Zinc	28.0	20.0	mg/kg		SW846 6010B	05/19-05/22/01	EDXVJ1AT	
		Dilution Factor: 10			Analysis Time...: 03:39		Analyst ID.....: 0031196	
		Instrument ID...: M01			MS Run #.....: 1149306		MDL.....: 10.0	
Aluminum	9230	200	mg/kg		SW846 6010B	05/19-05/22/01	EDXVJ1ET	
		Dilution Factor: 10			Analysis Time...: 03:39		Analyst ID.....: 0031196	
		Instrument ID...: M01			MS Run #.....: 1149306		MDL.....: 80.0	
Prep Batch #...: 1149546								
Mercury	ND	0.10	mg/kg		SW846 7471A	05/19/01		EDXVJ1AU
		Dilution Factor: 1			Analysis Time...: 18:47		Analyst ID.....: 0210886	
		Instrument ID...: M04			MS Run #.....: 1138106		MDL.....: 0.020	

NOTE(S) :

B Estimated result. Result is less than RL.

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

000010

# QC DATA ASSOCIATION SUMMARY

E1E240357

## Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	SOLID	SW846 7470A		1149548	1149308
	SOLID	SW846 7471A		1149546	1138106
	SOLID	SW846 6010B		1149545	1149306
	SOLID	SW846 6010B		1149547	1149307

**000011**

**METHOD BLANK REPORT**

**TOTAL Metals**

**Client Lot #....:** E1E240357

**Matrix.....:** SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>MB Lot-Sample #: E1E290000-545 Prep Batch #....: 1149545</b>						
Arsenic	ND	1.0	mg/kg	SW846 6010B	05/19-05/21/01	ED4NM1AA
		Dilution Factor: 1				
		Analysis Time...: 16:44		Analyst ID.....: 003119	Instrument ID...: M01	
Antimony	ND	6.0	mg/kg	SW846 6010B	05/19-05/21/01	ED4NM1AC
		Dilution Factor: 1				
		Analysis Time...: 16:44		Analyst ID.....: 003119	Instrument ID...: M01	
Barium	ND	2.0	mg/kg	SW846 6010B	05/19-05/21/01	ED4NM1AD
		Dilution Factor: 1				
		Analysis Time...: 16:44		Analyst ID.....: 003119	Instrument ID...: M01	
Cadmium	ND	0.50	mg/kg	SW846 6010B	05/19-05/21/01	ED4NM1AE
		Dilution Factor: 1				
		Analysis Time...: 16:44		Analyst ID.....: 003119	Instrument ID...: M01	
Chromium	0.36 B	1.0	mg/kg	SW846 6010B	05/19-05/21/01	ED4NM1AF
		Dilution Factor: 1				
		Analysis Time...: 16:44		Analyst ID.....: 003119	Instrument ID...: M01	
Beryllium	ND	0.50	mg/kg	SW846 6010B	05/19-05/21/01	ED4NM1AG
		Dilution Factor: 1				
		Analysis Time...: 16:44		Analyst ID.....: 003119	Instrument ID...: M01	
Lead	ND	0.50	mg/kg	SW846 6010B	05/19-05/21/01	ED4NM1AH
		Dilution Factor: 1				
		Analysis Time...: 16:44		Analyst ID.....: 003119	Instrument ID...: M01	
Selenium	ND	0.50	mg/kg	SW846 6010B	05/19-05/21/01	ED4NM1AJ
		Dilution Factor: 1				
		Analysis Time...: 16:44		Analyst ID.....: 003119	Instrument ID...: M01	
Silver	ND	1.0	mg/kg	SW846 6010B	05/19-05/21/01	ED4NM1AK
		Dilution Factor: 1				
		Analysis Time...: 16:44		Analyst ID.....: 003119	Instrument ID...: M01	
Cobalt	ND	5.0	mg/kg	SW846 6010B	05/19-05/21/01	ED4NM1AL
		Dilution Factor: 1				
		Analysis Time...: 16:44		Analyst ID.....: 003119	Instrument ID...: M01	
Copper	ND	2.5	mg/kg	SW846 6010B	05/19-05/21/01	ED4NM1AM
		Dilution Factor: 1				
		Analysis Time...: 16:44		Analyst ID.....: 003119	Instrument ID...: M01	

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**000012**

**METHOD BLANK REPORT****TOTAL Metals**

Client Lot #....: E1E240357

**Matrix.....: SOLID**

<b>PARAMETER</b>	<b>RESULT</b>	<b>REPORTING</b>			<b>METHOD</b>	<b>PREPARATION-</b> <b>ANALYSIS DATE</b>	<b>WORK</b> <b>ORDER #</b>
		<b>LIMIT</b>	<b>UNITS</b>				
Molybdenum	ND	4.0	mg/kg		SW846 6010B	05/19-05/21/01	ED4NM1AN
		Dilution Factor: 1					
		Analysis Time...: 16:44			Analyst ID.....: 003119	Instrument ID...: M01	
Nickel	ND	4.0	mg/kg		SW846 6010B	05/19-05/21/01	ED4NM1AP
		Dilution Factor: 1					
		Analysis Time...: 16:44			Analyst ID.....: 003119	Instrument ID...: M01	
Thallium	ND	1.0	mg/kg		SW846 6010B	05/19-05/21/01	ED4NM1AQ
		Dilution Factor: 1					
		Analysis Time...: 16:44			Analyst ID.....: 003119	Instrument ID...: M01	
Vanadium	ND	5.0	mg/kg		SW846 6010B	05/19-05/21/01	ED4NM1AR
		Dilution Factor: 1					
		Analysis Time...: 16:44			Analyst ID.....: 003119	Instrument ID...: M01	
Zinc	ND	2.0	mg/kg		SW846 6010B	05/19-05/21/01	ED4NM1AT
		Dilution Factor: 1					
		Analysis Time...: 16:44			Analyst ID.....: 003119	Instrument ID...: M01	
Aluminum	ND	20.0	mg/kg		SW846 6010B	05/19-05/21/01	ED4NM1CD
		Dilution Factor: 1					
		Analysis Time...: 16:44			Analyst ID.....: 003119	Instrument ID...: M01	

**MB Lot-Sample #: E1E290000-546 Prep Batch #....: 1149546**

Mercury	ND	0.10	mg/kg	SW846 7471A	05/19/01	ED4NP1AA
		Dilution Factor: 1				
		Analysis Time...: 14:23		Analyst ID.....: 021088	Instrument ID...: M04	

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

**000013**

## METHOD BLANK REPORT

## STLC Metals

Client Lot #....: E1E240357

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>MB Lot-Sample #:</b> E1E290000-547 <b>Prep Batch #....:</b> 1149547						
Aluminum	ND	10.0	mg/L	SW846 6010B	05/21/01	ED4NR1AA
		Dilution Factor: 1				
		Analysis Time...: 16:00		Analyst ID.....: 003119	Instrument ID...: M01	
Antimony	0.039 B	6.0	mg/L	SW846 6010B	05/21/01	ED4NR1AC
		Dilution Factor: 1				
		Analysis Time...: 16:00		Analyst ID.....: 003119	Instrument ID...: M01	
Arsenic	0.041 B	1.0	mg/L	SW846 6010B	05/21/01	ED4NR1AD
		Dilution Factor: 1				
		Analysis Time...: 16:00		Analyst ID.....: 003119	Instrument ID...: M01	
<b>***Barium INVALID DATA ON FOLLOWING LINE mg/L***</b>						
		Dilution Factor: 1				
		Analysis Time...: 16:00		Analyst ID.....: 003119	Instrument ID...: M01	
Beryllium	ND	0.50	mg/L	SW846 6010B	05/21/01	ED4NR1AF
		Dilution Factor: 1				
		Analysis Time...: 16:00		Analyst ID.....: 003119	Instrument ID...: M01	
Cadmium	ND	0.50	mg/L	SW846 6010B	05/21/01	ED4NR1AG
		Dilution Factor: 1				
		Analysis Time...: 16:00		Analyst ID.....: 003119	Instrument ID...: M01	
Chromium	ND	1.0	mg/L	SW846 6010B	05/21/01	ED4NR1AH
		Dilution Factor: 1				
		Analysis Time...: 16:00		Analyst ID.....: 003119	Instrument ID...: M01	
Cobalt	ND	5.0	mg/L	SW846 6010B	05/21/01	ED4NR1AJ
		Dilution Factor: 1				
		Analysis Time...: 16:00		Analyst ID.....: 003119	Instrument ID...: M01	
Copper	0.034 B	2.5	mg/L	SW846 6010B	05/21/01	ED4NR1AK
		Dilution Factor: 1				
		Analysis Time...: 16:00		Analyst ID.....: 003119	Instrument ID...: M01	
<b>***Lead INVALID DATA ON FOLLOWING LINE mg/L***</b>						
		Dilution Factor: 1				
		Analysis Time...: 16:00		Analyst ID.....: 003119	Instrument ID...: M01	
Molybdenum	ND	4.0	mg/L	SW846 6010B	05/21/01	ED4NR1AM
		Dilution Factor: 1				
		Analysis Time...: 16:00		Analyst ID.....: 003119	Instrument ID...: M01	

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**000014**

## METHOD BLANK REPORT

## STLC Metals

Client Lot #....: E1E240357

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
Nickel	0.088 B	4.0	mg/L	SW846 6010B	05/21/01	ED4NR1AN	
		Dilution Factor: 1					
		Analysis Time...: 16:00		Analyst ID.....: 003119	Instrument ID...: M01		
***Selenium	INVALID DATA ISN'T FOLLOWING. ONLINE	mg/L***		SW846 6010B	05/21/01	ED4NR1AP	
		Dilution Factor: 1					
		Analysis Time...: 16:00		Analyst ID.....: 003119	Instrument ID...: M01		
Silver	ND	1.0	mg/L	SW846 6010B	05/21/01	ED4NR1AQ	
		Dilution Factor: 1					
		Analysis Time...: 16:00		Analyst ID.....: 003119	Instrument ID...: M01		
Thallium	ND	1.0	mg/L	SW846 6010B	05/21/01	ED4NR1AR	
		Dilution Factor: 1					
		Analysis Time...: 16:00		Analyst ID.....: 003119	Instrument ID...: M01		
Vanadium	ND	5.0	mg/L	SW846 6010B	05/21/01	ED4NR1AT	
		Dilution Factor: 1					
		Analysis Time...: 16:00		Analyst ID.....: 003119	Instrument ID...: M01		
Zinc	0.034 B	2.0	mg/L	SW846 6010B	05/21/01	ED4NR1AU	
		Dilution Factor: 1					
		Analysis Time...: 16:00		Analyst ID.....: 003119	Instrument ID...: M01		

MB Lot-Sample #: E1E290000-548 Prep Batch #...: 1149548

Mercury	ND	0.0020	mg/L	SW846 7470A	05/21-05/22/01	ED4NW1AA
		Dilution Factor: 1				
		Analysis Time...: 13:57		Analyst ID.....: 021088	Instrument ID...: M04	

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

000015

**LABORATORY CONTROL SAMPLE DATA REPORT**

**TOTAL Metals**

**Client Lot #....:** E1E240357

**Matrix.....:** SOLID

<u>PARAMETER</u>	<u>SPIKE AMOUNT</u>	<u>MEASURED AMOUNT</u>	<u>UNITS</u>	<u>PERCNT RECVRY</u>	<u>METHOD</u>	<u>PREPARATION-ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>LCS Lot-Sample#: E1E290000-545 Prep Batch #....: 1149545</b>							
Arsenic	200	186	mg/kg	93	SW846 6010B	05/19-05/21/01	ED4NM1AU
			Dilution Factor: 1				
			Analysis Time...: 17:05		Analyst ID.....: 003119	Instrument ID...: M01	
Antimony	50.0	46.3	mg/kg	93	SW846 6010B	05/19-05/21/01	ED4NM1AV
			Dilution Factor: 1				
			Analysis Time...: 17:05		Analyst ID.....: 003119	Instrument ID...: M01	
Barium	200	202	mg/kg	101	SW846 6010B	05/19-05/21/01	ED4NM1AW
			Dilution Factor: 1				
			Analysis Time...: 17:05		Analyst ID.....: 003119	Instrument ID...: M01	
Cadmium	5.00	5.28	mg/kg	106	SW846 6010B	05/19-05/21/01	ED4NM1AX
			Dilution Factor: 1				
			Analysis Time...: 17:05		Analyst ID.....: 003119	Instrument ID...: M01	
Chromium	20.0	22.2	mg/kg	111	SW846 6010B	05/19-05/21/01	ED4NM1A0
			Dilution Factor: 1				
			Analysis Time...: 17:05		Analyst ID.....: 003119	Instrument ID...: M01	
Beryllium	5.00	5.44	mg/kg	109	SW846 6010B	05/19-05/21/01	ED4NM1A1
			Dilution Factor: 1				
			Analysis Time...: 17:05		Analyst ID.....: 003119	Instrument ID...: M01	
Lead	50.0	45.7	mg/kg	91	SW846 6010B	05/19-05/21/01	ED4NM1A2
			Dilution Factor: 1				
			Analysis Time...: 17:05		Analyst ID.....: 003119	Instrument ID...: M01	
Selenium	200	173	mg/kg	86	SW846 6010B	05/19-05/21/01	ED4NM1A3
			Dilution Factor: 1				
			Analysis Time...: 17:05		Analyst ID.....: 003119	Instrument ID...: M01	
Silver	5.00	4.94	mg/kg	99	SW846 6010B	05/19-05/21/01	ED4NM1A4
			Dilution Factor: 1				
			Analysis Time...: 17:05		Analyst ID.....: 003119	Instrument ID...: M01	
Cobalt	50.0	52.4	mg/kg	105	SW846 6010B	05/19-05/21/01	ED4NM1A5
			Dilution Factor: 1				
			Analysis Time...: 17:05		Analyst ID.....: 003119	Instrument ID...: M01	

(Continued on next page)

**000016**

**LABORATORY CONTROL SAMPLE DATA REPORT**

**TOTAL Metals**

**Client Lot #....: E1E240357**

**Matrix.....: SOLID**

PARAMETER	SPIKE	MEASURED		PERCNT		METHOD	PREPARATION-	WORK
	AMOUNT	AMOUNT	UNITS	RECVRY	ANALYSIS DATE		ORDER #	
Copper	25.0	25.3	mg/kg	101	SW846 6010B		05/19-05/21/01	ED4NM1A6
			Dilution Factor: 1					
			Analysis Time...: 17:05		Analyst ID.....: 003119		Instrument ID..: M01	
Molybdenum	100	102	mg/kg	102	SW846 6010B		05/19-05/21/01	ED4NM1A7
			Dilution Factor: 1					
			Analysis Time...: 17:05		Analyst ID.....: 003119		Instrument ID..: M01	
Nickel	50.0	50.5	mg/kg	101	SW846 6010B		05/19-05/21/01	ED4NM1A8
			Dilution Factor: 1					
			Analysis Time...: 17:05		Analyst ID.....: 003119		Instrument ID..: M01	
Thallium	200	179	mg/kg	89	SW846 6010B		05/19-05/21/01	ED4NM1A9
			Dilution Factor: 1					
			Analysis Time...: 17:05		Analyst ID.....: 003119		Instrument ID..: M01	
Vanadium	50.0	53.8	mg/kg	108	SW846 6010B		05/19-05/21/01	ED4NM1CA
			Dilution Factor: 1					
			Analysis Time...: 17:05		Analyst ID.....: 003119		Instrument ID..: M01	
Zinc	50.0	50.2	mg/kg	100	SW846 6010B		05/19-05/21/01	ED4NM1CC
			Dilution Factor: 1					
			Analysis Time...: 17:05		Analyst ID.....: 003119		Instrument ID..: M01	
Aluminum	200	167	mg/kg	84	SW846 6010B		05/19-05/22/01	ED4NM1CE
			Dilution Factor: 1					
			Analysis Time...: 17:17		Analyst ID.....: 003119		Instrument ID..: M01	
LCS Lot-Sample#:	E1E290000-546	Prep Batch #....:	1149546					
Mercury	0.833	0.815	mg/kg	98	SW846 7471A		05/19/01	ED4NP1AC
			Dilution Factor: 1					
			Analysis Time...: 14:25		Analyst ID.....: 021088		Instrument ID..: M04	

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**000017**

## LABORATORY CONTROL SAMPLE DATA REPORT

## STLC Metals

Client Lot #....: E1E240357

Matrix.....: SOLID

PARAMETER	SPIKE	MEASURED	PERCNT		PREPARATION- ANALYSIS DATE	WORK ORDER #
	AMOUNT	AMOUNT	UNITS	RECVRY		
<b>LCS Lot-Sample#: E1E290000-547 Prep Batch #....: 1149547</b>						
Aluminum	20.0	20.5	mg/L	102	SW846 6010B	05/21/01 ED4NR1AW
			Dilution Factor:	1		
			Analysis Time...:	16:08	Analyst ID.....: 003119	Instrument ID..: M01
Antimony	5.00	5.36	mg/L	107	SW846 6010B	05/21/01 ED4NR1AX
			Dilution Factor:	1		
			Analysis Time...:	16:08	Analyst ID.....: 003119	Instrument ID..: M01
Arsenic	20.0	21.9	mg/L	109	SW846 6010B	05/21/01 ED4NR1A0
			Dilution Factor:	1		
			Analysis Time...:	16:08	Analyst ID.....: 003119	Instrument ID..: M01
Barium	20.0	19.9	mg/L	99	SW846 6010B	05/21/01 ED4NR1A1
			Dilution Factor:	1		
			Analysis Time...:	16:08	Analyst ID.....: 003119	Instrument ID..: M01
Beryllium	0.500	0.541	mg/L	108	SW846 6010B	05/21/01 ED4NR1A2
			Dilution Factor:	1		
			Analysis Time...:	16:08	Analyst ID.....: 003119	Instrument ID..: M01
Cadmium	0.500	0.527	mg/L	105	SW846 6010B	05/21/01 ED4NR1A3
			Dilution Factor:	1		
			Analysis Time...:	16:08	Analyst ID.....: 003119	Instrument ID..: M01
Chromium	2.00	2.14	mg/L	107	SW846 6010B	05/21/01 ED4NR1A4
			Dilution Factor:	1		
			Analysis Time...:	16:08	Analyst ID.....: 003119	Instrument ID..: M01
Cobalt	5.00	5.41	mg/L	108	SW846 6010B	05/21/01 ED4NR1A5
			Dilution Factor:	1		
			Analysis Time...:	16:08	Analyst ID.....: 003119	Instrument ID..: M01
Copper	2.50	2.61	mg/L	104	SW846 6010B	05/21/01 ED4NR1A6
			Dilution Factor:	1		
			Analysis Time...:	16:08	Analyst ID.....: 003119	Instrument ID..: M01
Lead	5.00	5.10	mg/L	102	SW846 6010B	05/21/01 ED4NR1A7
			Dilution Factor:	1		
			Analysis Time...:	16:08	Analyst ID.....: 003119	Instrument ID..: M01

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000018

**LABORATORY CONTROL SAMPLE DATA REPORT**

**STLC Metals**

**Client Lot #....:** E1E240357

**Matrix.....:** SOLID

PARAMETER	SPIKE	MEASURED	UNITS	PERCNT		METHOD	PREPARATION-	WORK
	AMOUNT	AMOUNT		RECVRY	ANALYSIS DATE		ANALYSIS DATE	ORDER #
Molybdenum	10.0	10.6	mg/L	106	SW846	6010B	05/21/01	ED4NR1A8
			Dilution Factor: 1					
			Analysis Time...: 16:08		Analyst ID.....: 003119		Instrument ID..: M01	
Nickel	5.00	5.23	mg/L	105	SW846	6010B	05/21/01	ED4NR1A9
			Dilution Factor: 1					
			Analysis Time...: 16:08		Analyst ID.....: 003119		Instrument ID..: M01	
Selenium	20.0	22.8	mg/L	114	SW846	6010B	05/21/01	ED4NR1CA
			Dilution Factor: 1					
			Analysis Time...: 16:08		Analyst ID.....: 003119		Instrument ID..: M01	
Silver	0.500	0.536	mg/L	107	SW846	6010B	05/21/01	ED4NR1CC
			Dilution Factor: 1					
			Analysis Time...: 16:08		Analyst ID.....: 003119		Instrument ID..: M01	
Thallium	20.0	22.2	mg/L	111	SW846	6010B	05/21/01	ED4NR1CD
			Dilution Factor: 1					
			Analysis Time...: 16:08		Analyst ID.....: 003119		Instrument ID..: M01	
Vanadium	5.00	5.22	mg/L	104	SW846	6010B	05/21/01	ED4NR1CE
			Dilution Factor: 1					
			Analysis Time...: 16:08		Analyst ID.....: 003119		Instrument ID..: M01	
Zinc	5.00	5.63	mg/L	113	SW846	6010B	05/21/01	ED4NR1CF
			Dilution Factor: 1					
			Analysis Time...: 16:08		Analyst ID.....: 003119		Instrument ID..: M01	

**LCS Lot-Sample#:** E1E290000-548 **Prep Batch #....:** 1149548

Mercury	0.0500	0.0479	mg/L	96	SW846	7470A	05/21-05/22/01	ED4NW1AC
				Dilution Factor: 1				
				Analysis Time...: 13:59		Analyst ID.....: 021088	Instrument ID..: M04	

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**000019**

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**TOTAL Metals**

**Client Lot #....:** E1E240357

**Matrix.....:** SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	E1E290000-545	Prep Batch #....:	1149545		
Arsenic	93	(75 - 115)	SW846 6010B	05/19-05/21/01	ED4NM1AU
		Dilution Factor: 1			
		Analysis Time...: 17:05	Analyst ID.....: 003119	Instrument ID...: M01	
Antimony	93	(75 - 115)	SW846 6010B	05/19-05/21/01	ED4NM1AV
		Dilution Factor: 1			
		Analysis Time...: 17:05	Analyst ID.....: 003119	Instrument ID...: M01	
Barium	101	(80 - 120)	SW846 6010B	05/19-05/21/01	ED4NM1AW
		Dilution Factor: 1			
		Analysis Time...: 17:05	Analyst ID.....: 003119	Instrument ID...: M01	
Cadmium	106	(80 - 120)	SW846 6010B	05/19-05/21/01	ED4NM1AX
		Dilution Factor: 1			
		Analysis Time...: 17:05	Analyst ID.....: 003119	Instrument ID...: M01	
Chromium	111	(85 - 120)	SW846 6010B	05/19-05/21/01	ED4NM1AO
		Dilution Factor: 1			
		Analysis Time...: 17:05	Analyst ID.....: 003119	Instrument ID...: M01	
Beryllium	109	(80 - 120)	SW846 6010B	05/19-05/21/01	ED4NM1A1
		Dilution Factor: 1			
		Analysis Time...: 17:05	Analyst ID.....: 003119	Instrument ID...: M01	
Lead	91	(80 - 120)	SW846 6010B	05/19-05/21/01	ED4NM1A2
		Dilution Factor: 1			
		Analysis Time...: 17:05	Analyst ID.....: 003119	Instrument ID...: M01	
Selenium	86	(70 - 115)	SW846 6010B	05/19-05/21/01	ED4NM1A3
		Dilution Factor: 1			
		Analysis Time...: 17:05	Analyst ID.....: 003119	Instrument ID...: M01	
Silver	99	(80 - 120)	SW846 6010B	05/19-05/21/01	ED4NM1A4
		Dilution Factor: 1			
		Analysis Time...: 17:05	Analyst ID.....: 003119	Instrument ID...: M01	
Cobalt	105	(80 - 120)	SW846 6010B	05/19-05/21/01	ED4NM1A5
		Dilution Factor: 1			
		Analysis Time...: 17:05	Analyst ID.....: 003119	Instrument ID...: M01	

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**000020**

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**TOTAL Metals**

**Client Lot #....:** E1E240357

**Matrix.....:** SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Copper	101	(80 - 120)	SW846 6010B		05/19-05/21/01	ED4NM1A6
		Dilution Factor: 1				
		Analysis Time...: 17:05		Analyst ID.....: 003119		Instrument ID...: M01
Molybdenum	102	(80 - 120)	SW846 6010B		05/19-05/21/01	ED4NM1A7
		Dilution Factor: 1				
		Analysis Time...: 17:05		Analyst ID.....: 003119		Instrument ID...: M01
Nickel	101	(80 - 120)	SW846 6010B		05/19-05/21/01	ED4NM1A8
		Dilution Factor: 1				
		Analysis Time...: 17:05		Analyst ID.....: 003119		Instrument ID...: M01
Thallium	89	(75 - 120)	SW846 6010B		05/19-05/21/01	ED4NM1A9
		Dilution Factor: 1				
		Analysis Time...: 17:05		Analyst ID.....: 003119		Instrument ID...: M01
Vanadium	108	(80 - 120)	SW846 6010B		05/19-05/21/01	ED4NM1CA
		Dilution Factor: 1				
		Analysis Time...: 17:05		Analyst ID.....: 003119		Instrument ID...: M01
Zinc	100	(80 - 120)	SW846 6010B		05/19-05/21/01	ED4NM1CC
		Dilution Factor: 1				
		Analysis Time...: 17:05		Analyst ID.....: 003119		Instrument ID...: M01
Aluminum	84	(80 - 120)	SW846 6010B		05/19-05/22/01	ED4NM1CE
		Dilution Factor: 1				
		Analysis Time...: 17:17		Analyst ID.....: 003119		Instrument ID...: M01
LCS Lot-Sample#:	E1E290000-546	Prep Batch #....:	1149546			
Mercury	98	(85 - 115)	SW846 7471A		05/19/01	ED4NP1AC
		Dilution Factor: 1				
		Analysis Time...: 14:25		Analyst ID.....: 021088		Instrument ID...: M04

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**000021**

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**STLC Metals**

**Client Lot #....:** E1E240357

**Matrix.....:** SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>LCS Lot-Sample#:</b> E1E290000-547 <b>Prep Batch #....:</b> 1149547					
Aluminum	102	(80 - 120)	SW846 6010B	05/21/01	ED4NR1AW
		Dilution Factor: 1			
		Analysis Time...: 16:08	Analyst ID.....: 003119		Instrument ID...: M01
Antimony	107	(80 - 120)	SW846 6010B	05/21/01	ED4NR1AX
		Dilution Factor: 1			
		Analysis Time...: 16:08	Analyst ID.....: 003119		Instrument ID...: M01
Arsenic	109	(80 - 120)	SW846 6010B	05/21/01	ED4NR1A0
		Dilution Factor: 1			
		Analysis Time...: 16:08	Analyst ID.....: 003119		Instrument ID...: M01
Barium	99	(80 - 120)	SW846 6010B	05/21/01	ED4NR1A1
		Dilution Factor: 1			
		Analysis Time...: 16:08	Analyst ID.....: 003119		Instrument ID...: M01
Beryllium	108	(80 - 120)	SW846 6010B	05/21/01	ED4NR1A2
		Dilution Factor: 1			
		Analysis Time...: 16:08	Analyst ID.....: 003119		Instrument ID...: M01
Cadmium	105	(80 - 120)	SW846 6010B	05/21/01	ED4NR1A3
		Dilution Factor: 1			
		Analysis Time...: 16:08	Analyst ID.....: 003119		Instrument ID...: M01
Chromium	107	(80 - 120)	SW846 6010B	05/21/01	ED4NR1A4
		Dilution Factor: 1			
		Analysis Time...: 16:08	Analyst ID.....: 003119		Instrument ID...: M01
Cobalt	108	(80 - 120)	SW846 6010B	05/21/01	ED4NR1A5
		Dilution Factor: 1			
		Analysis Time...: 16:08	Analyst ID.....: 003119		Instrument ID...: M01
Copper	104	(80 - 120)	SW846 6010B	05/21/01	ED4NR1A6
		Dilution Factor: 1			
		Analysis Time...: 16:08	Analyst ID.....: 003119		Instrument ID...: M01
Lead	102	(80 - 120)	SW846 6010B	05/21/01	ED4NR1A7
		Dilution Factor: 1			
		Analysis Time...: 16:08	Analyst ID.....: 003119		Instrument ID...: M01

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**000022**

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**STLC Metals**

**Client Lot #....:** E1E240357

**Matrix.....:** SOLID

<b>PARAMETER</b>	<b>PERCENT RECOVERY</b>	<b>RECOVERY</b>		<b>PREPARATION- ANALYSIS DATE</b>	<b>WORK ORDER #</b>
		<b>LIMITS</b>	<b>METHOD</b>		
Molybdenum	106	(80 - 120)	SW846 6010B	05/21/01	ED4NR1A8
		Dilution Factor: 1			
		Analysis Time...: 16:08	Analyst ID.....: 003119		Instrument ID...: M01
Nickel	105	(80 - 120)	SW846 6010B	05/21/01	ED4NR1A9
		Dilution Factor: 1			
		Analysis Time...: 16:08	Analyst ID.....: 003119		Instrument ID...: M01
Selenium	114	(80 - 120)	SW846 6010B	05/21/01	ED4NR1CA
		Dilution Factor: 1			
		Analysis Time...: 16:08	Analyst ID.....: 003119		Instrument ID...: M01
Silver	107	(80 - 120)	SW846 6010B	05/21/01	ED4NR1CC
		Dilution Factor: 1			
		Analysis Time...: 16:08	Analyst ID.....: 003119		Instrument ID...: M01
Thallium	111	(80 - 120)	SW846 6010B	05/21/01	ED4NR1CD
		Dilution Factor: 1			
		Analysis Time...: 16:08	Analyst ID.....: 003119		Instrument ID...: M01
Vanadium	104	(80 - 120)	SW846 6010B	05/21/01	ED4NR1CE
		Dilution Factor: 1			
		Analysis Time...: 16:08	Analyst ID.....: 003119		Instrument ID...: M01
Zinc	113	(80 - 120)	SW846 6010B	05/21/01	ED4NR1CF
		Dilution Factor: 1			
		Analysis Time...: 16:08	Analyst ID.....: 003119		Instrument ID...: M01
<b>LCS Lot-Sample#:</b> E1E290000-548 <b>Prep Batch #....:</b> 1149548					
Mercury	96	(80 - 120)	SW846 7470A	05/21-05/22/01	ED4NW1AC
		Dilution Factor: 1			
		Analysis Time...: 13:59	Analyst ID.....: 021088		Instrument ID...: M04

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**000023**

**MATRIX SPIKE SAMPLE DATA REPORT**

**TOTAL Metals**

**Client Lot #....:** E1E240357

**Matrix.....:** SOLID

**Date Sampled...:** 05/10/01 08:25 **Date Received..:** 05/10/01 19:20

<b>PARAMETER</b>	<b>SAMPLE AMOUNT</b>	<b>SPIKE AMT</b>	<b>MEASURED AMOUNT</b>	<b>UNITS</b>	<b>PERCNT RECVRY</b>	<b>RPD</b>	<b>METHOD</b>	<b>PREPARATION- ANALYSIS DATE</b>	<b>WORK ORDER #</b>
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**MS Lot-Sample #:** E1E100315-026 **Prep Batch #....:** 1138256

**Mercury**

0.087	0.167	0.247	mg/kg	96	SW846	7471A	05/19/01	EC6351C3	
0.087	0.167	0.248	mg/kg	97	0.67	SW846	7471A	05/19/01	EC6351C4

Dilution Factor: 1

Analysis Time...: 14:28 Instrument ID..: M04

Analyst ID.....: 021088

MS Run #.....: 1138106

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**000024**

**MATRIX SPIKE SAMPLE DATA REPORT**

**STLC Metals**

**Client Lot #....:** E1E240357

**Matrix.....:** SOLID

**Date Sampled....:** 05/17/01 15:40 **Date Received..:** 05/17/01 18:00

<b>PARAMETER</b>	<b>SAMPLE SPIKE MEASURED</b>			<b>PERCNT</b>			<b>PREPARATION-</b>	<b>WORK</b>
	<b>AMOUNT</b>	<b>AMT</b>	<b>AMOUNT</b>	<b>UNITS</b>	<b>RECVRY</b>	<b>RPD</b>	<b>METHOD</b>	<b>ANALYSIS DATE</b>
<b>MS Lot-Sample #:</b> E1E240357-001 <b>Prep Batch #....:</b> 1149547								
Aluminum								
	232	20.0	257	NC	mg/L		SW846 6010B	05/21-05/22/01 EDXVJ1DJ
	232	20.0	260	NC	mg/L		SW846 6010B	05/21-05/22/01 EDXVJ1DK
					Dilution Factor: 1			
					Analysis Time...: 16:21	Instrument ID...: M01		Analyst ID.....: 003119
					MS Run #.....: 1149307			
Antimony								
	ND	5.00	4.56	mg/L	91		SW846 6010B	05/21-05/22/01 EDXVJ1DL
	ND	5.00	4.65	mg/L	93	1.8	SW846 6010B	05/21-05/22/01 EDXVJ1DM
					Dilution Factor: 1			
					Analysis Time...: 16:21	Instrument ID...: M01		Analyst ID.....: 003119
					MS Run #.....: 1149307			
Arsenic								
	0.20	20.0	21.6	mg/L	107		SW846 6010B	05/21-05/22/01 EDXVJ1DN
	0.20	20.0	22.1	mg/L	110	2.3	SW846 6010B	05/21-05/22/01 EDXVJ1DP
					Dilution Factor: 1			
					Analysis Time...: 16:21	Instrument ID...: M01		Analyst ID.....: 003119
					MS Run #.....: 1149307			
Barium								
	5.4	20.0	26.6	mg/L	106		SW846 6010B	05/21-05/22/01 EDXVJ1DQ
	5.4	20.0	27.0	mg/L	108	1.8	SW846 6010B	05/21-05/22/01 EDXVJ1DR
					Dilution Factor: 1			
					Analysis Time...: 16:21	Instrument ID...: M01		Analyst ID.....: 003119
					MS Run #.....: 1149307			
Beryllium								
	0.016	0.500	0.545	mg/L	106		SW846 6010B	05/21-05/22/01 EDXVJ1DT
	0.016	0.500	0.554	mg/L	108	1.6	SW846 6010B	05/21-05/22/01 EDXVJ1DU
					Dilution Factor: 1			
					Analysis Time...: 16:21	Instrument ID...: M01		Analyst ID.....: 003119
					MS Run #.....: 1149307			
Cadmium								
	0.050	0.500	0.583	mg/L	107		SW846 6010B	05/21-05/22/01 EDXVJ1DV
	0.050	0.500	0.586	mg/L	107	0.44	SW846 6010B	05/21-05/22/01 EDXVJ1DW
					Dilution Factor: 1			
					Analysis Time...: 16:21	Instrument ID...: M01		Analyst ID.....: 003119
					MS Run #.....: 1149307			

(Continued on next page)

**000025**

**MATRIX SPIKE SAMPLE DATA REPORT**

**STLC Metals**

**Client Lot #....:** E1E240357

**Matrix.....:** SOLID

**Date Sampled...:** 05/17/01 15:40 **Date Received..:** 05/17/01 18:00

<b>PARAMETER</b>	<b>SAMPLE</b>	<b>SPIKE</b>	<b>MEASURED</b>	<b>UNITS</b>	<b>PERCNT</b>			<b>PREPARATION-</b>	<b>WORK</b>
	<b>AMOUNT</b>	<b>AMT</b>	<b>AMOUNT</b>		<b>RECVRY</b>	<b>RPD</b>	<b>METHOD</b>		
<b>Chromium</b>									
	636	2.00	648	NC	mg/L		SW846 6010B	05/21-05/22/01	EDXVJ1DX
	636	2.00	651	NC	mg/L		SW846 6010B	05/21-05/22/01	EDXVJ1D0
			Dilution Factor:	1					
			Analysis Time...:	16:21			Instrument ID...: M01		Analyst ID.....: 003119
			MS Run #.....:	1149307					
<b>Cobalt</b>									
	0.075	5.00	5.37	mg/L	106		SW846 6010B	05/21-05/22/01	EDXVJ1D1
	0.075	5.00	5.46	mg/L	108	1.7	SW846 6010B	05/21-05/22/01	EDXVJ1D2
			Dilution Factor:	1					
			Analysis Time...:	16:21			Instrument ID...: M01		Analyst ID.....: 003119
			MS Run #.....:	1149307					
<b>Copper</b>									
	0.54	2.50	3.22	mg/L	107		SW846 6010B	05/21-05/22/01	EDXVJ1D3
	0.54	2.50	3.28	mg/L	110	2.0	SW846 6010B	05/21-05/22/01	EDXVJ1D4
			Dilution Factor:	1					
			Analysis Time...:	16:21			Instrument ID...: M01		Analyst ID.....: 003119
			MS Run #.....:	1149307					
<b>Lead</b>									
	ND	5.00	5.18	mg/L	104		SW846 6010B	05/21-05/22/01	EDXVJ1D5
	ND	5.00	5.29	mg/L	106	2.1	SW846 6010B	05/21-05/22/01	EDXVJ1D6
			Dilution Factor:	1					
			Analysis Time...:	16:21			Instrument ID...: M01		Analyst ID.....: 003119
			MS Run #.....:	1149307					
<b>Molybdenum</b>									
	ND	10.0	10.5	mg/L	105		SW846 6010B	05/21-05/22/01	EDXVJ1D7
	ND	10.0	10.7	mg/L	107	2.0	SW846 6010B	05/21-05/22/01	EDXVJ1D8
			Dilution Factor:	1					
			Analysis Time...:	16:21			Instrument ID...: M01		Analyst ID.....: 003119
			MS Run #.....:	1149307					
<b>Nickel</b>									
	0.29	5.00	5.38	mg/L	102		SW846 6010B	05/21-05/22/01	EDXVJ1D9
	0.29	5.00	5.49	mg/L	104	2.0	SW846 6010B	05/21-05/22/01	EDXVJ1EA
			Dilution Factor:	1					
			Analysis Time...:	16:21			Instrument ID...: M01		Analyst ID.....: 003119
			MS Run #.....:	1149307					
<b>Selenium</b>									
	0.23	20.0	21.9	mg/L	108		SW846 6010B	05/21-05/22/01	EDXVJ1EC
	0.23	20.0	22.5	mg/L	111	2.8	SW846 6010B	05/21-05/22/01	EDXVJ1ED
			Dilution Factor:	1					
			Analysis Time...:	16:21			Instrument ID...: M01		Analyst ID.....: 003119
			MS Run #.....:	1149307					

**000026**

**MATRIX SPIKE SAMPLE DATA REPORT**

**STLC Metals**

**Client Lot #....:** E1E240357

**Matrix.....:** SOLID

**Date Sampled....:** 05/17/01 15:40 **Date Received..:** 05/17/01 18:00

PARAMETER	SAMPLE	SPIKE	MEASURED	UNITS	PERCNT		METHOD	PREPARATION-	WORK
	AMOUNT	AMT	AMOUNT		RECVRY	RPD		ANALYSIS DATE	ORDER #
<b>Silver</b>									
	ND	0.500	0.515	mg/L	103		SW846 6010B	05/21-05/22/01	EDXVJ1EE
	ND	0.500	0.529	mg/L	106	2.7	SW846 6010B	05/21-05/22/01	EDXVJ1EF
	Dilution Factor: 1								
	Analysis Time...: 16:21      Instrument ID...: M01								
	MS Run #.....: 1149307								
<b>Thallium</b>									
	ND	20.0	22.3	mg/L	112		SW846 6010B	05/21-05/22/01	EDXVJ1EG
	ND	20.0	22.6	mg/L	113	1.2	SW846 6010B	05/21-05/22/01	EDXVJ1EH
	Dilution Factor: 1								
	Analysis Time...: 16:21      Instrument ID...: M01								
	MS Run #.....: 1149307								
<b>Vanadium</b>									
	0.89	5.00	6.02	mg/L	103		SW846 6010B	05/21-05/22/01	EDXVJ1EJ
	0.89	5.00	6.11	mg/L	104	1.4	SW846 6010B	05/21-05/22/01	EDXVJ1EK
	Dilution Factor: 1								
	Analysis Time...: 16:21      Instrument ID...: M01								
	MS Run #.....: 1149307								
<b>Zinc</b>									
	2.4	5.00	7.80	mg/L	109		SW846 6010B	05/21-05/22/01	EDXVJ1EL
	2.4	5.00	7.88	mg/L	110	1.0	SW846 6010B	05/21-05/22/01	EDXVJ1EM
	Dilution Factor: 1								
	Analysis Time...: 16:21      Instrument ID...: M01								
	MS Run #.....: 1149307								

**MS Lot-Sample #:** E1E240357-001 **Prep Batch #....:** 1149548

**Mercury**

ND	0.050	0.0486	mg/L	97		SW846 7470A	05/21-05/22/01	EDXVJ1EQ
ND	0.050	0.0460	mg/L	92	5.5	SW846 7470A	05/21-05/22/01	EDXVJ1ER
Dilution Factor: 1								
Analysis Time...: 14:03      Instrument ID...: M04								
MS Run #.....: 1149308								

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

NC The recovery and/or RPD were not calculated.

**000027**

**MATRIX SPIKE SAMPLE DATA REPORT**

**TOTAL Metals**

**Client Lot #....:** E1E240357

**Matrix.....:** SOLID

**Date Sampled....:** 05/17/01 15:40 **Date Received..:** 05/17/01 18:00

<u>PARAMETER</u>	<u>SAMPLE AMOUNT</u>	<u>SPIKE AMT</u>	<u>MEASURED AMOUNT</u>	<u>UNITS</u>	<u>PERCNT RECVRY</u>	<u>RPD</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>MS Lot-Sample #:</b> E1E240357-001 <b>Prep Batch #....:</b> 1149545									
<b>Arsenic</b>									
	4.0	200	194	mg/kg	95		SW846 6010B	05/19-05/22/01	EDXVJ1CG
	4.0	200	179	mg/kg	87	8.2	SW846 6010B	05/19-05/22/01	EDXVJ1CH
				Dilution Factor: 10					
				Analysis Time...: 03:54			Instrument ID...: M01		Analyst ID.....: 003119
				MS Run #.....: 1149306					
<b>Antimony</b>									
	ND	50.0		mg/kg	0.0		SW846 6010B	05/19-05/22/01	EDXVJ1CJ
	ND	50.0		mg/kg	0.0	0.0	SW846 6010B	05/19-05/22/01	EDXVJ1CK
				Dilution Factor: 10					
				Analysis Time...: 03:54			Instrument ID...: M01		Analyst ID.....: 003119
				MS Run #.....: 1149306					
<b>Barium</b>									
	107	200	310	mg/kg	101		SW846 6010B	05/19-05/22/01	EDXVJ1CL
	107	200	283	mg/kg	88	9.2	SW846 6010B	05/19-05/22/01	EDXVJ1CM
				Dilution Factor: 10					
				Analysis Time...: 03:54			Instrument ID...: M01		Analyst ID.....: 003119
				MS Run #.....: 1149306					
<b>Cadmium</b>									
	ND	5.00	4.88	mg/kg	98		SW846 6010B	05/19-05/22/01	EDXVJ1CN
	ND	5.00	4.09	mg/kg	82	18	SW846 6010B	05/19-05/22/01	EDXVJ1CP
				Dilution Factor: 10					
				Analysis Time...: 03:54			Instrument ID...: M01		Analyst ID.....: 003119
				MS Run #.....: 1149306					
<b>Chromium</b>									
	19700	20.0	11500	NC mg/kg			SW846 6010B	05/19-05/22/01	EDXVJ1CQ
	19700	20.0	12900	NC mg/kg			SW846 6010B	05/19-05/22/01	EDXVJ1CR
				Dilution Factor: 10					
				Analysis Time...: 03:54			Instrument ID...: M01		Analyst ID.....: 003119
				MS Run #.....: 1149306					
<b>Beryllium</b>									
	ND	5.00	5.76	mg/kg	115		SW846 6010B	05/19-05/22/01	EDXVJ1CT
	ND	5.00	5.31	mg/kg	106	8.1	SW846 6010B	05/19-05/22/01	EDXVJ1CU
				Dilution Factor: 10					
				Analysis Time...: 03:54			Instrument ID...: M01		Analyst ID.....: 003119
				MS Run #.....: 1149306					

(Continued on next page)

**000028**

**MATRIX SPIKE SAMPLE DATA REPORT**

**TOTAL Metals**

**Client Lot #....:** E1E240357

**Matrix.....:** SOLID

**Date Sampled....:** 05/17/01 15:40 **Date Received..:** 05/17/01 18:00

<u>PARAMETER</u>	<u>SAMPLE AMOUNT</u>	<u>SPIKE AMT</u>	<u>MEASURED AMOUNT</u>	<u>UNITS</u>	<u>PERCNT RECVRY</u>	<u>RPD</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>Lead</b>									
	3.5	50.0	48.2	mg/kg	90		SW846 6010B	05/19-05/22/01	EDXVJ1CW
	3.5	50.0	47.3	mg/kg	88	1.9	SW846 6010B	05/19-05/22/01	EDXVJ1CW
Dilution Factor: 10									
Analysis Time...: 03:54      Instrument ID...: M01      Analyst ID.....: 003119									
MS Run #.....: 1149306									
<b>Selenium</b>									
	ND	200	187	mg/kg	93		SW846 6010B	05/19-05/22/01	EDXVJ1CX
	ND	200	172	mg/kg	86	8.0	SW846 6010B	05/19-05/22/01	EDXVJ1C0
Dilution Factor: 10									
Analysis Time...: 03:54      Instrument ID...: M01      Analyst ID.....: 003119									
MS Run #.....: 1149306									
<b>Silver</b>									
	ND	5.00	4.43	mg/kg	89		SW846 6010B	05/19-05/22/01	EDXVJ1C1
	ND	5.00	4.19	mg/kg	84	5.6	SW846 6010B	05/19-05/22/01	EDXVJ1C2
Dilution Factor: 10									
Analysis Time...: 03:54      Instrument ID...: M01      Analyst ID.....: 003119									
MS Run #.....: 1149306									
<b>Cobalt</b>									
	4.9	50.0	55.0	mg/kg	100		SW846 6010B	05/19-05/22/01	EDXVJ1C3
	4.9	50.0	49.2	mg/kg	89	11	SW846 6010B	05/19-05/22/01	EDXVJ1C4
Dilution Factor: 10									
Analysis Time...: 03:54      Instrument ID...: M01      Analyst ID.....: 003119									
MS Run #.....: 1149306									
<b>Copper</b>									
	12.8	25.0	34.1	mg/kg	85		SW846 6010B	05/19-05/22/01	EDXVJ1C5
	12.8	25.0	32.7	mg/kg	80	4.1	SW846 6010B	05/19-05/22/01	EDXVJ1C6
Dilution Factor: 10									
Analysis Time...: 03:54      Instrument ID...: M01      Analyst ID.....: 003119									
MS Run #.....: 1149306									
<b>Molybdenum</b>									
	ND	100	97.3	mg/kg	97		SW846 6010B	05/19-05/22/01	EDXVJ1C7
	ND	100	88.6	mg/kg	89	9.4	SW846 6010B	05/19-05/22/01	EDXVJ1C8
Dilution Factor: 10									
Analysis Time...: 03:54      Instrument ID...: M01      Analyst ID.....: 003119									
MS Run #.....: 1149306									
<b>Nickel</b>									
	14.2	50.0	69.7	mg/kg	111		SW846 6010B	05/19-05/22/01	EDXVJ1C9
	14.2	50.0	58.0	mg/kg	88	18	SW846 6010B	05/19-05/22/01	EDXVJ1DA
Dilution Factor: 10									
Analysis Time...: 03:54      Instrument ID...: M01      Analyst ID.....: 003119									
MS Run #.....: 1149306									

**000029**

**MATRIX SPIKE SAMPLE DATA REPORT**

**TOTAL Metals**

**Client Lot #....:** E1E240357

**Matrix.....:** SOLID

**Date Sampled....:** 05/17/01 15:40 **Date Received..:** 05/17/01 18:00

PARAMETER	SAMPLE	SPIKE	MEASURED	UNITS	PERCNT		METHOD	PREPARATION-	WORK
	AMOUNT	AMT	AMOUNT		RECVRY	RPD		ANALYSIS DATE	ORDER #
<b>Thallium</b>									
	ND	200	179	mg/kg	90		SW846 6010B	05/19-05/22/01	EDXVJ1DC
	ND	200	163	mg/kg	82	9.4	SW846 6010B	05/19-05/22/01	EDXVJ1DD
	Dilution Factor: 10								
	Analysis Time...: 03:54      Instrument ID...: M01								
	MS Run #.....: 1149306								
<b>Vanadium</b>									
	29.4	50.0	75.5	mg/kg	92		SW846 6010B	05/19-05/22/01	EDXVJ1DE
	29.4	50.0	70.2	mg/kg	82	7.2	SW846 6010B	05/19-05/22/01	EDXVJ1DF
	Dilution Factor: 10								
	Analysis Time...: 03:54      Instrument ID...: M01								
	MS Run #.....: 1149306								
<b>Zinc</b>									
	28.0	50.0	84.6	mg/kg	113		SW846 6010B	05/19-05/22/01	EDXVJ1DG
	28.0	50.0	73.3	mg/kg	91	14	SW846 6010B	05/19-05/22/01	EDXVJ1DH
	Dilution Factor: 10								
	Analysis Time...: 03:54      Instrument ID...: M01								
	MS Run #.....: 1149306								
<b>Aluminum</b>									
	9230	200	9480	NC mg/kg			SW846 6010B	05/19-05/22/01	EDXVJ1EV
	9230	200	8700	NC mg/kg			SW846 6010B	05/19-05/22/01	EDXVJ1EW
	Dilution Factor: 1								
	Analysis Time...: 03:54      Instrument ID...: M01								
	MS Run #.....: 1149306								

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

NC The recovery and/or RPD were not calculated.

**000030**

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #....: E1E240357

Matrix.....: SOLID

Date Sampled....: 05/10/01 08:25 Date Received..: 05/10/01 19:20

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>MS Lot-Sample #: E1E100315-026 Prep Batch #....: 1138256</b>							
Mercury	96	(80 - 120)		SW846 7471A		05/19/01	EC6351C3
	97	(80 - 120)	0.67 (0-20)	SW846 7471A		05/19/01	EC6351C4
Dilution Factor: 1							
Analysis Time...: 14:28				Instrument ID...: M04		Analyst ID.....: 021088	
MS Run #.....: 1138106							

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**000031**

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**STLC Metals**

**Client Lot #....:** E1E240357

**Matrix.....:** SOLID

**Date Sampled....:** 05/17/01 15:40 **Date Received...:** 05/17/01 18:00

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>MS Lot-Sample #:</b> E1E240357-001 <b>Prep Batch #....:</b> 1149547							
Aluminum	NC	(80 - 120)		SW846 6010B		05/21-05/22/01	EDXVJ1DJ
	NC	(80 - 120)	(0-20)	SW846 6010B		05/21-05/22/01	EDXVJ1DK
		Dilution Factor: 1					
		Analysis Time...: 16:21		Instrument ID...: M01			Analyst ID.....: 003119
		MS Run #.....: 1149307					
Antimony	91	(80 - 120)		SW846 6010B		05/21-05/22/01	EDXVJ1DL
	93	(80 - 120)	1.8 (0-20)	SW846 6010B		05/21-05/22/01	EDXVJ1DM
		Dilution Factor: 1					
		Analysis Time...: 16:21		Instrument ID...: M01			Analyst ID.....: 003119
		MS Run #.....: 1149307					
Arsenic	107	(80 - 120)		SW846 6010B		05/21-05/22/01	EDXVJ1DN
	110	(80 - 120)	2.3 (0-20)	SW846 6010B		05/21-05/22/01	EDXVJ1DP
		Dilution Factor: 1					
		Analysis Time...: 16:21		Instrument ID...: M01			Analyst ID.....: 003119
		MS Run #.....: 1149307					
Barium	106	(80 - 120)		SW846 6010B		05/21-05/22/01	EDXVJ1DQ
	108	(80 - 120)	1.8 (0-20)	SW846 6010B		05/21-05/22/01	EDXVJ1DR
		Dilution Factor: 1					
		Analysis Time...: 16:21		Instrument ID...: M01			Analyst ID.....: 003119
		MS Run #.....: 1149307					
Beryllium	106	(80 - 120)		SW846 6010B		05/21-05/22/01	EDXVJ1DT
	108	(80 - 120)	1.6 (0-20)	SW846 6010B		05/21-05/22/01	EDXVJ1DU
		Dilution Factor: 1					
		Analysis Time...: 16:21		Instrument ID...: M01			Analyst ID.....: 003119
		MS Run #.....: 1149307					
Cadmium	107	(80 - 120)		SW846 6010B		05/21-05/22/01	EDXVJ1DV
	107	(80 - 120)	0.44 (0-20)	SW846 6010B		05/21-05/22/01	EDXVJ1DW
		Dilution Factor: 1					
		Analysis Time...: 16:21		Instrument ID...: M01			Analyst ID.....: 003119
		MS Run #.....: 1149307					
Chromium	NC	(80 - 120)		SW846 6010B		05/21-05/22/01	EDXVJ1DX
	NC	(80 - 120)	(0-20)	SW846 6010B		05/21-05/22/01	EDXVJ1DO
		Dilution Factor: 1					
		Analysis Time...: 16:21		Instrument ID...: M01			Analyst ID.....: 003119
		MS Run #.....: 1149307					

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**000032**

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**STLC Metals**

**Client Lot #....: E1E240357**

**Matrix.....: SOLID**

**Date Sampled....: 05/17/01 15:40 Date Received..: 05/17/01 18:00**

<b>PARAMETER</b>	<b>PERCENT</b>	<b>RECOVERY</b>	<b>RPD</b>	<b>METHOD</b>	<b>PREPARATION-</b>	<b>WORK</b>
	<b>RECOVERY</b>	<b>LIMITS</b>	<b>RPD</b>		<b>ANALYSIS DATE</b>	<b>ORDER #</b>
Cobalt	106	(80 - 120)		SW846 6010B	05/21-05/22/01	EDXVJ1D1
	108	(80 - 120) 1.7 (0-20)	1.7	SW846 6010B	05/21-05/22/01	EDXVJ1D2
		Dilution Factor: 1				
		Analysis Time...: 16:21		Instrument ID...: M01		Analyst ID.....: 003119
		MS Run #.....: 1149307				
Copper	107	(80 - 120)		SW846 6010B	05/21-05/22/01	EDXVJ1D3
	110	(80 - 120) 2.0 (0-20)	2.0	SW846 6010B	05/21-05/22/01	EDXVJ1D4
		Dilution Factor: 1				
		Analysis Time...: 16:21		Instrument ID...: M01		Analyst ID.....: 003119
		MS Run #.....: 1149307				
Lead	104	(80 - 120)		SW846 6010B	05/21-05/22/01	EDXVJ1D5
	106	(80 - 120) 2.1 (0-20)	2.1	SW846 6010B	05/21-05/22/01	EDXVJ1D6
		Dilution Factor: 1				
		Analysis Time...: 16:21		Instrument ID...: M01		Analyst ID.....: 003119
		MS Run #.....: 1149307				
Molybdenum	105	(80 - 120)		SW846 6010B	05/21-05/22/01	EDXVJ1D7
	107	(80 - 120) 2.0 (0-20)	2.0	SW846 6010B	05/21-05/22/01	EDXVJ1D8
		Dilution Factor: 1				
		Analysis Time...: 16:21		Instrument ID...: M01		Analyst ID.....: 003119
		MS Run #.....: 1149307				
Nickel	102	(80 - 120)		SW846 6010B	05/21-05/22/01	EDXVJ1D9
	104	(80 - 120) 2.0 (0-20)	2.0	SW846 6010B	05/21-05/22/01	EDXVJ1EA
		Dilution Factor: 1				
		Analysis Time...: 16:21		Instrument ID...: M01		Analyst ID.....: 003119
		MS Run #.....: 1149307				
Selenium	108	(80 - 120)		SW846 6010B	05/21-05/22/01	EDXVJ1EC
	111	(80 - 120) 2.8 (0-20)	2.8	SW846 6010B	05/21-05/22/01	EDXVJ1ED
		Dilution Factor: 1				
		Analysis Time...: 16:21		Instrument ID...: M01		Analyst ID.....: 003119
		MS Run #.....: 1149307				
Silver	103	(80 - 120)		SW846 6010B	05/21-05/22/01	EDXVJ1EE
	106	(80 - 120) 2.7 (0-20)	2.7	SW846 6010B	05/21-05/22/01	EDXVJ1EF
		Dilution Factor: 1				
		Analysis Time...: 16:21		Instrument ID...: M01		Analyst ID.....: 003119
		MS Run #.....: 1149307				
Thallium	112	(80 - 120)		SW846 6010B	05/21-05/22/01	EDXVJ1EG
	113	(80 - 120) 1.2 (0-20)	1.2	SW846 6010B	05/21-05/22/01	EDXVJ1EH
		Dilution Factor: 1				
		Analysis Time...: 16:21		Instrument ID...: M01		Analyst ID.....: 003119
		MS Run #.....: 1149307				

(Continued on next page)

**000033**

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**STLC Metals**

**Client Lot #....:** E1E240357

**Matrix.....:** SOLID

**Date Sampled....:** 05/17/01 15:40 **Date Received..:** 05/17/01 18:00

<b>PARAMETER</b>	<b>PERCENT</b>	<b>RECOVERY</b>	<b>RPD</b>	<b>METHOD</b>	<b>PREPARATION-</b>	<b>WORK</b>
	<b>RECOVERY</b>	<b>LIMITS</b>	<b>RPD</b>		<b>ANALYSIS DATE</b>	<b>ORDER #</b>
Vanadium	103	(80 - 120)		SW846 6010B	05/21-05/22/01	EDXVJ1EJ
	104	(80 - 120)	1.4	(0-20)	SW846 6010B	05/21-05/22/01 EDXVJ1EK
		Dilution Factor:	1			
		Analysis Time..:	16:21	Instrument ID..: M01		Analyst ID.....: 003119
Zinc	109	(80 - 120)		SW846 6010B	05/21-05/22/01	EDXVJ1EL
	110	(80 - 120)	1.0	(0-20)	SW846 6010B	05/21-05/22/01 EDXVJ1EM
		Dilution Factor:	1			
		Analysis Time..:	16:21	Instrument ID..: M01		Analyst ID.....: 003119
<b>MS Lot-Sample #:</b> E1E240357-001 <b>Prep Batch #....:</b> 1149548						
Mercury	97	(80 - 120)		SW846 7470A	05/21-05/22/01	EDXVJ1EQ
	92	(80 - 120)	5.5	(0-20)	SW846 7470A	05/21-05/22/01 EDXVJ1ER
		Dilution Factor:	1			
		Analysis Time..:	14:03	Instrument ID..: M04		Analyst ID.....: 021088
<b>MS Run #.....:</b> 1149308						

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

NC The recovery and/or RPD were not calculated.

**000034**

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**TOTAL Metals**

**Client Lot #....:** E1E240357

**Matrix.....:** SOLID

**Date Sampled....:** 05/17/01 15:40 **Date Received..:** 05/17/01 18:00

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>MS Lot-Sample #:</b> E1E240357-001 <b>Prep Batch #....:</b> 1149545							
Arsenic	95	(75 - 115)		SW846 6010B		05/19-05/22/01 EDXVJ1CG	
	87	(75 - 115) 8.2 (0-25)		SW846 6010B	Dilution Factor: 10	05/19-05/22/01 EDXVJ1CH	
					Analysis Time...: 03:54 Instrument ID...: M01		Analyst ID.....: 003119
					MS Run #.....: 1149306		
Antimony	0.0	(75 - 115)		SW846 6010B		05/19-05/22/01 EDXVJ1CJ	
	0.0	(75 - 115) 0.0 (0-25)		SW846 6010B	Dilution Factor: 10	05/19-05/22/01 EDXVJ1CK	
					Analysis Time...: 03:54 Instrument ID...: M01		Analyst ID.....: 003119
					MS Run #.....: 1149306		
Barium	101	(80 - 120)		SW846 6010B		05/19-05/22/01 EDXVJ1CL	
	88	(80 - 120) 9.2 (0-25)		SW846 6010B	Dilution Factor: 10	05/19-05/22/01 EDXVJ1CM	
					Analysis Time...: 03:54 Instrument ID...: M01		Analyst ID.....: 003119
					MS Run #.....: 1149306		
Cadmium	98	(80 - 120)		SW846 6010B		05/19-05/22/01 EDXVJ1CN	
	82	(80 - 120) 18 (0-25)		SW846 6010B	Dilution Factor: 10	05/19-05/22/01 EDXVJ1CP	
					Analysis Time...: 03:54 Instrument ID...: M01		Analyst ID.....: 003119
					MS Run #.....: 1149306		
Chromium	NC	(85 - 120)		SW846 6010B		05/19-05/22/01 EDXVJ1CQ	
	NC	(85 - 120) (0-25)		SW846 6010B	Dilution Factor: 10	05/19-05/22/01 EDXVJ1CR	
					Analysis Time...: 03:54 Instrument ID...: M01		Analyst ID.....: 003119
					MS Run #.....: 1149306		
Beryllium	115	(80 - 120)		SW846 6010B		05/19-05/22/01 EDXVJ1CT	
	106	(80 - 120) 8.1 (0-25)		SW846 6010B	Dilution Factor: 10	05/19-05/22/01 EDXVJ1CU	
					Analysis Time...: 03:54 Instrument ID...: M01		Analyst ID.....: 003119
					MS Run #.....: 1149306		
Lead	90	(80 - 120)		SW846 6010B		05/19-05/22/01 EDXVJ1CV	
	88	(80 - 120) 1.9 (0-25)		SW846 6010B	Dilution Factor: 10	05/19-05/22/01 EDXVJ1CW	
					Analysis Time...: 03:54 Instrument ID...: M01		Analyst ID.....: 003119
					MS Run #.....: 1149306		

(Continued on next page)

**000035**

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**TOTAL Metals**

**Client Lot #....:** E1E240357

**Date Sampled....:** 05/17/01 15:40 **Date Received..:** 05/17/01 18:00

**Matrix.....:** SOLID

<b>PARAMETER</b>	<b>PERCENT RECOVERY</b>	<b>RECOVERY</b>			<b>RPD LIMITS</b>	<b>METHOD</b>	<b>PREPARATION- ANALYSIS DATE</b>	<b>WORK ORDER #</b>
		<b>LIMITS</b>	<b>RPD</b>	<b>LIMITS</b>				
Selenium	93	(70 - 115)				SW846 6010B	05/19-05/22/01	EDXVJ1CX
	86	(70 - 115)	8.0	(0-25)		SW846 6010B	05/19-05/22/01	EDXVJ1C0
		Dilution Factor: 10						
		Analysis Time...: 03:54				Instrument ID...: M01		Analyst ID.....: 003119
		MS Run #.....: 1149306						
Silver	89	(80 - 120)				SW846 6010B	05/19-05/22/01	EDXVJ1C1
	84	(80 - 120)	5.6	(0-25)		SW846 6010B	05/19-05/22/01	EDXVJ1C2
		Dilution Factor: 10						
		Analysis Time...: 03:54				Instrument ID...: M01		Analyst ID.....: 003119
		MS Run #.....: 1149306						
Cobalt	100	(80 - 120)				SW846 6010B	05/19-05/22/01	EDXVJ1C3
	89	(80 - 120)	11	(0-25)		SW846 6010B	05/19-05/22/01	EDXVJ1C4
		Dilution Factor: 10						
		Analysis Time...: 03:54				Instrument ID...: M01		Analyst ID.....: 003119
		MS Run #.....: 1149306						
Copper	85	(80 - 120)				SW846 6010B	05/19-05/22/01	EDXVJ1C5
	80	(80 - 120)	4.1	(0-25)		SW846 6010B	05/19-05/22/01	EDXVJ1C6
		Dilution Factor: 10						
		Analysis Time...: 03:54				Instrument ID...: M01		Analyst ID.....: 003119
		MS Run #.....: 1149306						
Molybdenum	97	(80 - 120)				SW846 6010B	05/19-05/22/01	EDXVJ1C7
	89	(80 - 120)	9.4	(0-25)		SW846 6010B	05/19-05/22/01	EDXVJ1C8
		Dilution Factor: 10						
		Analysis Time...: 03:54				Instrument ID...: M01		Analyst ID.....: 003119
		MS Run #.....: 1149306						
Nickel	111	(80 - 120)				SW846 6010B	05/19-05/22/01	EDXVJ1C9
	88	(80 - 120)	18	(0-25)		SW846 6010B	05/19-05/22/01	EDXVJ1DA
		Dilution Factor: 10						
		Analysis Time...: 03:54				Instrument ID...: M01		Analyst ID.....: 003119
		MS Run #.....: 1149306						
Thallium	90	(75 - 120)				SW846 6010B	05/19-05/22/01	EDXVJ1DC
	82	(75 - 120)	9.4	(0-25)		SW846 6010B	05/19-05/22/01	EDXVJ1DD
		Dilution Factor: 10						
		Analysis Time...: 03:54				Instrument ID...: M01		Analyst ID.....: 003119
		MS Run #.....: 1149306						
Vanadium	92	(80 - 120)				SW846 6010B	05/19-05/22/01	EDXVJ1DE
	82	(80 - 120)	7.2	(0-25)		SW846 6010B	05/19-05/22/01	EDXVJ1DF
		Dilution Factor: 10						
		Analysis Time...: 03:54				Instrument ID...: M01		Analyst ID.....: 003119
		MS Run #.....: 1149306						

(Continued on next page)

**000036**

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**TOTAL Metals**

**Client Lot #....:** E1E240357

**Date Sampled....:** 05/17/01 15:40 **Date Received...:** 05/17/01 18:00

**Matrix.....:** SOLID

PARAMETER	PERCENT	RECOVERY	RPD	METHOD	PREPARATION-	WORK
	RECOVERY	LIMITS	RPD		ANALYSIS DATE	ORDER #
Zinc	113	(80 - 120)		SW846 6010B	05/19-05/22/01	EDXVJ1DG
	91	(80 - 120)	14	(0-25) SW846 6010B	05/19-05/22/01	EDXVJ1DH
		Dilution Factor: 10				
		Analysis Time...: 03:54		Instrument ID...: M01		Analyst ID.....: 003119
		MS Run #.....: 1149306				
Aluminum	NC	(80 - 120)		SW846 6010B	05/19-05/22/01	EDXVJ1EV
	NC	(80 - 120)	(0-25)	SW846 6010B	05/19-05/22/01	EDXVJ1EW
		Dilution Factor: 1				
		Analysis Time...: 03:54		Instrument ID...: M01		Analyst ID.....: 003119
		MS Run #.....: 1149306				

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

NC The recovery and/or RPD were not calculated.

**000037**



June 13, 2001

STL LOT NUMBER: E1F070343  
NELAC Certification Number: 01118CA  
PO/CONTRACT: 05160-SEV002-00-S56

Bob Logan  
Kennedy/Jenks Consultants  
2151 Michelson Drive  
Suite 10  
Irvine, CA 92612

STL Los Angeles  
1721 South Grand Avenue  
Santa Ana, CA 92705-4808

Tel: 714 258 8610  
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Dear Mr. Logan,

This report contains the additional analytical results for the two samples requested on June 7, 2001. These samples are associated with your BRC former C-6 Torrance Harbor Gateway project.

All applicable quality control procedures met method-specified acceptance criteria except as indicated on the following page. Any matrix related anomaly is footnoted within the report. The PAH by 8310 analysis was performed by Del Mar Analytical. See attached report for any related anomaly.

STL Los Angeles certifies that the tests performed in our facility meet all the requirements of NELAC. This report shall not be reproduced except in full, without the written approval of the laboratory.

If you have any questions, please feel free to call me at 714-258-8610 extension 309.

Sincerely,

Diane Suzuki  
Project Manager

cc: Project File

000022  
This report contains \_\_\_\_\_ pages.

000001

STL Los Angeles is a part of Severn Trent Laboratories, Inc.





LOT NUMBER E1F070343

**Nonconformance 05-01820**

**Affected Samples:**

E1F070343 (1): Build\_2\_M\_10\_052901\_7  
E1F070343 (2): Build\_2\_M\_10\_0531001\_8

**Method:** PCBs by 8082

**Case Narrative:**

*The samples extracts were pale yellow and contained substantial sediment.*

*The surrogate recovery was low. The sample was analyzed twice to confirm this was caused by matrix interference.*

*The closing CCV was out low. The samples were analyze twice with similar results. The first set of data is reported as measured.*

000002



# CHANGE ORDER

Lab Analysis No.	E1F070343
Client Name	Henneberry Jenks
Contact	Beth Breitenbach / H+A

- CANCEL Work
  - ADD Work
  - Chain of Custody Discrepancy
  - TAT Change
  - Matrix
  - Sample Problem
  - Tests Not Defined
  - Other

**Initiated By:**

Date/Time:

6/6/01

**Received By:**

Date/Time:

#### **Distribution:**

Original - Sample Control Job Folder Yellow Lab: Risk Initiator

EINE 3008

BOE GE 0000812

## **EXECUTIVE SUMMARY - Detection Highlights**

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>NO DETECTABLE PARAMETERS</b>				

**00000.4**

## METHODS SUMMARY

E1F070343

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
PCBs by SW-846 8082	SW846 8082	SW846 3550

**References:**

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

000005

# SAMPLE SUMMARY

E1F070343

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
EEJ17	001	Build_2_M_10_052901_7	05/29/01	16:00
EEJ2A	002	Build_2_M_10_053101_8	05/31/01	13:00

## NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

000006

KENNEDY/JENKS CONSULTANTS

Client Sample ID: Build\_2\_M\_10\_052901\_7

GC Semivolatiles

Lot-Sample #....: E1F070343-001 Work Order #....: EEJ171AA Matrix.....: SOLID  
Date Sampled....: 05/29/01 16:00 Date Received...: 05/30/01 15:30 MS Run #.....: 1159203  
Prep Date.....: 06/08/01 Analysis Date...: 06/09/01  
Prep Batch #....: 1159398 Analysis Time...: 01:49  
Dilution Factor: 1  
Analyst ID.....: 018568 Instrument ID...: G8B  
Method.....: SW846 8082

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Aroclor 1016	ND	33	ug/kg	10
Aroclor 1221	ND	33	ug/kg	10
Aroclor 1232	ND	33	ug/kg	10
Aroclor 1242	ND	33	ug/kg	10
Aroclor 1248	ND	33	ug/kg	10
Aroclor 1254	ND	33	ug/kg	10
Aroclor 1260	ND	33	ug/kg	10

SURROGATE	PERCENT RECOVERY	RECOVERY	
		LIMITS	
Decachlorobiphenyl	54 *	(60 - 140)	
Tetrachloro-m-xylene	38 *	(60 - 140)	

NOTE(S) :

\* Surrogate recovery is outside stated control limits.

Pale yellow extract containing sediment.

000007

## KENNEDY/JENKS CONSULTANTS

Client Sample ID: Build\_2\_M\_10\_053101\_8

## GC Semivolatiles

Lot-Sample #....: E1F070343-002 Work Order #....: EEJ2A1AA Matrix.....: SOLID  
 Date Sampled....: 05/31/01 13:00 Date Received...: 05/31/01 16:10 MS Run #.....: 1159203  
 Prep Date.....: 06/08/01 Analysis Date...: 06/09/01  
 Prep Batch #....: 1159398 Analysis Time...: 03:48  
 Dilution Factor: 1  
 Analyst ID.....: 018568 Instrument ID...: G8B  
 Method.....: SW846 8082

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Aroclor 1016	ND	33	ug/kg	10
Aroclor 1221	ND	33	ug/kg	10
Aroclor 1232	ND	33	ug/kg	10
Aroclor 1242	ND	33	ug/kg	10
Aroclor 1248	ND	33	ug/kg	10
Aroclor 1254	ND	33	ug/kg	10
Aroclor 1260	ND	33	ug/kg	10

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>	
		<u>RECOVERY</u>	<u>LIMITS</u>
Decachlorobiphenyl	81	(60 - 140)	
Tetrachloro-m-xylene	51 *	(60 - 140)	

NOTE(S) :

\* Surrogate recovery is outside stated control limits.

Pale yellow extract containing sediment.

000008

# **QC DATA ASSOCIATION SUMMARY**

**E1F070343**

## **Sample Preparation and Analysis Control Numbers**

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	SOLID	SW846 8082		1159398	1159203
002	SOLID	SW846 8082		1159398	1159203

**000009**

**METHOD BLANK REPORT**

**GC Semivolatiles**

**Client Lot #....:** E1F070343  
**MB Lot-Sample #:** E1F080000-398  
**Analysis Date...:** 06/09/01  
**Dilution Factor:** 1

**Work Order #....:** EEL3X1AA  
**Prep Date.....:** 06/08/01  
**Prep Batch #....:** 1159398  
**Analyst ID.....:** 018568

**Matrix.....:** SOLID

**Analysis Time..:** 00:29  
**Instrument ID...:** G8B

<b>PARAMETER</b>	<b>REPORTING</b>			
	<b>RESULT</b>	<b>LIMIT</b>	<b>UNITS</b>	<b>METHOD</b>
Aroclor 1016	ND	33	ug/kg	SW846 8082
Aroclor 1221	ND	33	ug/kg	SW846 8082
Aroclor 1232	ND	33	ug/kg	SW846 8082
Aroclor 1242	ND	33	ug/kg	SW846 8082
Aroclor 1248	ND	33	ug/kg	SW846 8082
Aroclor 1254	ND	33	ug/kg	SW846 8082
Aroclor 1260	ND	33	ug/kg	SW846 8082

<b>SURROGATE</b>	<b>PERCENT</b>	<b>RECOVERY</b>
	<b>RECOVERY</b>	<b>LIMITS</b>
Decachlorobiphenyl	109	(60 - 140)
Tetrachloro-m-xylene	3.3 *	(60 - 140)

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

\* Surrogate recovery is outside stated control limits.

000010

**LABORATORY CONTROL SAMPLE DATA REPORT**

**GC Semivolatiles**

**Client Lot #....:** E1F070343      **Work Order #....:** EEL3X1AC      **Matrix.....:** SOLID  
**LCS Lot-Sample#:** E1F080000-398  
**Prep Date.....:** 06/08/01      **Analysis Date...:** 06/09/01  
**Prep Batch #....:** 1159398      **Analysis Time...:** 01:09  
**Dilution Factor:** 1      **Instrument ID...:** G8B  
**Analyst ID.....:** 018568

<u>PARAMETER</u>	<u>SPIKE</u>	<u>MEASURED</u>	<u>UNITS</u>	<u>PERCENT RECOVERY</u>	<u>METHOD</u>
	<u>AMOUNT</u>	<u>AMOUNT</u>			
Aroclor 1016	333	321	ug/kg	96	SW846 8082
Aroclor 1260	333	341	ug/kg	102	SW846 8082

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
	<u>RECOVERY</u>	
Decachlorobiphenyl	111	(60 - 140)
Tetrachloro-m-xylene	7.4 *	(60 - 140)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

\* Surrogate recovery is outside stated control limits.

**000011**

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**GC Semivolatiles**

**Client Lot #....:** E1F070343      **Work Order #....:** EEL3X1AC      **Matrix.....:** SOLID  
**LCS Lot-Sample#:** E1F080000-398  
**Prep Date.....:** 06/08/01      **Analysis Date...:** 06/09/01  
**Prep Batch #....:** 1159398      **Analysis Time...:** 01:09  
**Dilution Factor:** 1      **Instrument ID...:** G8B  
**Analyst ID.....:** 018568

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>
<b>Aroclor 1016</b>	<b>96</b>	(65 - 130)	<b>SW846 8082</b>
<b>Aroclor 1260</b>	<b>102</b>	(70 - 130)	<b>SW846 8082</b>
<hr/>			
<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	
Decachlorobiphenyl	111	(60 - 140)	
Tetrachloro-m-xylene	7.4 *	(60 - 140)	

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

\* Surrogate recovery is outside stated control limits.

000012

**MATRIX SPIKE SAMPLE DATA REPORT**

**GC Semivolatiles**

**Client Lot #....:** E1F070343      **Work Order #....:** EEJ171AD-MS      **Matrix.....:** SOLID  
**MS Lot-Sample #:** E1F070343-001                                    **EEJ171AE-MSD**  
**Date Sampled....:** 05/29/01 16:00      **Date Received...:** 05/30/01 15:30      **MS Run #.....:** 1159203  
**Prep Date.....:** 06/08/01      **Analysis Date...:** 06/09/01  
**Prep Batch #....:** 1159398      **Analysis Time...:** 02:28  
**Dilution Factor:** 1      **Analyst ID.....:** 018568      **Instrument ID...:** G8B

<b>PARAMETER</b>	<b>SAMPLE</b>	<b>SPIKE</b>	<b>MEASRD</b>	<b>PERCENT</b>			<b>METHOD</b>
	<b>AMOUNT</b>	<b>AMT</b>	<b>AMOUNT</b>	<b>UNITS</b>	<b>RECOVERY</b>	<b>RPD</b>	
<b>Aroclor 1016</b>	ND	333	213	ug/kg	64 a		<b>SW846 8082</b>
	ND	333	202	ug/kg	61 a	5.1	<b>SW846 8082</b>
<b>Aroclor 1260</b>	ND	333	227	ug/kg	68 a		<b>SW846 8082</b>
	ND	333	234	ug/kg	70	2.9	<b>SW846 8082</b>

<b>SURROGATE</b>	<b>PERCENT</b>		<b>RECOVERY</b>
	<b>RECOVERY</b>	<b>LIMITS</b>	
Decachlorobiphenyl	79	(60 - 140)	
	86	(60 - 140)	
Tetrachloro-m-xylene	52 *	(60 - 140)	
	52 *	(60 - 140)	

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

\* Surrogate recovery is outside stated control limits.

Pale yellow extract containing sediment.

Pale yellow extract containing sediment.

000013

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**GC Semivolatiles**

Client Lot #....: E1F070343	Work Order #....: EEJ171AD-MS	Matrix.....: SOLID
MS Lot-Sample #: E1F070343-001		EEJ171AE-MSD
Date Sampled....: 05/29/01 16:00	Date Received...: 05/30/01 15:30	MS Run #.....: 1159203
Prep Date.....: 06/08/01	Analysis Date...: 06/09/01	
Prep Batch #....: 1159398	Analysis Time...: 02:28	
Dilution Factor: 1	Analyst ID.....: 018568	Instrument ID..: G8B

<u>PARAMETER</u>	<u>PERCENT</u>	<u>RECOVERY</u>	<u>RPD</u>	<u>LIMITS</u>	<u>METHOD</u>
	<u>RECOVERY</u>	<u>LIMITS</u>			
<b>Aroclor 1016</b>	<b>64 a</b>	(65 - 130)			<b>SW846 8082</b>
	<b>61 a</b>	(65 - 130)	<b>5.1</b>	(0-30)	<b>SW846 8082</b>
<b>Aroclor 1260</b>	<b>68 a</b>	(70 - 130)			<b>SW846 8082</b>
	<b>70</b>	(70 - 130)	<b>2.9</b>	(0-30)	<b>SW846 8082</b>

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>	<u>LIMITS</u>
	<u>RECOVERY</u>		
Decachlorobiphenyl	79		(60 - 140)
	86		(60 - 140)
Tetrachloro-m-xylene	52 *		(60 - 140)
	52 *		(60 - 140)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

\* Surrogate recovery is outside stated control limits.

Pale yellow extract containing sediment.

Pale yellow extract containing sediment.

**000014**

# **Subcontracted**

# **Analysis**

000015



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## LABORATORY REPORT

Prepared For: STL Los Angeles  
1721 S. Grand Avenue  
Santa Ana, CA 92705

Attention: Diane Suzuki  
Project: E1F070343

Sampled: 05/29/01  
Received: 06/08/01  
Reported: 06/14/01

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A handwritten signature in black ink, appearing to read "Clif Kiser".

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Clifton J. Kiser  
Project Manager

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**CKF0105 <Page 1 of 6>**



STL Los Angeles  
 1721 S. Grand Avenue  
 Santa Ana, CA 92705  
 Attention: Diane Suzuki

Client Project ID: E1F070343

Report Number: CKF0105

Sampled:05/29/01-05/31/01  
 Received:06/08/01

## POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
				ug/kg	ug/kg			
<b>Sample ID: CKF0105-01 (Build_2_M_10_052901_7 - Soil)</b>							<b>Sampled: 05/29/01</b>	
Acenaphthene	EPA 8310	C1F1107	5000	830	100	6/11/01	6/12/01	J
Acenaphthylene	EPA 8310	C1F1107	5000	ND	100	6/11/01	6/12/01	
Anthracene	EPA 8310	C1F1107	200	56	100	6/11/01	6/12/01	J
Benzo(a)anthracene	EPA 8310	C1F1107	200	ND	100	6/11/01	6/12/01	
Benzo(a)pyrene	EPA 8310	C1F1107	200	100	100	6/11/01	6/12/01	J
Benzo(b)fluoranthene	EPA 8310	C1F1107	500	370	100	6/11/01	6/12/01	J
Benzo(g,h,i)perylene	EPA 8310	C1F1107	500	410	100	6/11/01	6/12/01	J
Benzo(k)fluoranthene	EPA 8310	C1F1107	200	240	100	6/11/01	6/12/01	
Chrysene	EPA 8310	C1F1107	500	ND	100	6/11/01	6/12/01	
Dibenzo(a,h)anthracene	EPA 8310	C1F1107	500	750	100	6/11/01	6/12/01	
Fluoranthene	EPA 8310	C1F1107	500	350	100	6/11/01	6/12/01	J
Fluorene	EPA 8310	C1F1107	500	160	100	6/11/01	6/12/01	J
Indeno(1,2,3-cd)pyrene	EPA 8310	C1F1107	500	250	100	6/11/01	6/12/01	J
Naphthalene	EPA 8310	C1F1107	2000	480	100	6/11/01	6/12/01	J
Phenanthrene	EPA 8310	C1F1107	500	640	100	6/11/01	6/12/01	
Pyrene	EPA 8310	C1F1107	500	320	100	6/11/01	6/12/01	J
<i>Surrogate: 2-Methylnanthracene (35-115%)</i>							2530 %	
<b>Sample ID: CKF0105-02 (Build_2_M_10_053101_8 - Soil)</b>							<b>Sampled: 05/31/01</b>	
Acenaphthene	EPA 8310	C1F1107	100000	ND	2000	6/11/01	6/12/01	
Acenaphthylene	EPA 8310	C1F1107	100000	ND	2000	6/11/01	6/12/01	
Anthracene	EPA 8310	C1F1107	4000	5700	2000	6/11/01	6/12/01	
Benzo(a)anthracene	EPA 8310	C1F1107	4000	ND	2000	6/11/01	6/12/01	
Benzo(a)pyrene	EPA 8310	C1F1107	4000	4400	2000	6/11/01	6/12/01	
Benzo(b)fluoranthene	EPA 8310	C1F1107	10000	14000	2000	6/11/01	6/12/01	
Benzo(g,h,i)perylene	EPA 8310	C1F1107	10000	1300	2000	6/11/01	6/12/01	J
Benzo(k)fluoranthene	EPA 8310	C1F1107	4000	9300	2000	6/11/01	6/12/01	
Chrysene	EPA 8310	C1F1107	10000	110000	2000	6/11/01	6/12/01	
Dibenzo(a,h)anthracene	EPA 8310	C1F1107	10000	27000	2000	6/11/01	6/12/01	
Fluoranthene	EPA 8310	C1F1107	10000	33000	2000	6/11/01	6/12/01	
Fluorene	EPA 8310	C1F1107	10000	20000	2000	6/11/01	6/12/01	
Indeno(1,2,3-cd)pyrene	EPA 8310	C1F1107	10000	1100	2000	6/11/01	6/12/01	J
Naphthalene	EPA 8310	C1F1107	40000	48000	2000	6/11/01	6/12/01	
Phenanthrene	EPA 8310	C1F1107	10000	83000	2000	6/11/01	6/12/01	
Pyrene	EPA 8310	C1F1107	10000	12000	2000	6/11/01	6/12/01	
<i>Surrogate: 2-Methylnanthracene (35-115%)</i>							209000 %	

Z3

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 Clifton J. Kiser  
 Project Manager

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STL Los Angeles  
 1721 S. Grand Avenue  
 Santa Ana, CA 92705  
 Attention: Diane Suzuki

Client Project ID: E1F070343

Report Number: CKF0105

Sampled:05/29/01-05/31/01

Received:06/08/01

### METHOD BLANK/QC DATA

### POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC Limits	RPD RPD	Data Limit Qualifiers
---------	--------	-----------------	-------	-------------	---------------	------------------	---------	-----------------------

Batch: C1F1107 Extracted: 06/11/01

**Blank Analyzed: 06/12/01 (C1F1107-BLK1)**

Acenaphthene	ND	50	ug/kg					
Acenaphthylene	ND	50	ug/kg					
Anthracene	ND	2.0	ug/kg					
Benzo(a)anthracene	ND	2.0	ug/kg					
Benzo(a)pyrene	ND	2.0	ug/kg					
Benzo(b)fluoranthene	ND	5.0	ug/kg					
Benzo(g,h,i)perylene	ND	5.0	ug/kg					
Benzo(k)fluoranthene	ND	2.0	ug/kg					
Chrysene	ND	5.0	ug/kg					
Dibenzo(a,h)anthracene	ND	5.0	ug/kg					
Fluoranthene	ND	5.0	ug/kg					
Fluorene	1.18	5.0	ug/kg					J
Indeno(1,2,3-cd)pyrene	2.28	5.0	ug/kg					J
Naphthalene	ND	20	ug/kg					
Phenanthrene	ND	5.0	ug/kg					
Pyrene	ND	5.0	ug/kg					
<i>Surrogate: 2-Methylanthracene</i>	4.88		ug/kg	8.00		61.0	35-115	

**LCS Analyzed: 06/12/01 (C1F1107-BS1)**

Acenaphthene	62.4	50	ug/kg	80.0		78.0	45-115	
Acenaphthylene	123	50	ug/kg	160		76.9	50-115	
Anthracene	5.51	2.0	ug/kg	8.00		68.9	55-115	
Benzo(a)anthracene	6.62	2.0	ug/kg	8.00		82.7	65-115	
Benzo(a)pyrene	5.46	2.0	ug/kg	8.00		68.3	55-115	
Benzo(b)fluoranthene	13.0	5.0	ug/kg	16.0		81.3	65-115	
Benzo(g,h,i)perylene	13.2	5.0	ug/kg	16.0		82.5	60-115	
Benzo(k)fluoranthene	6.21	2.0	ug/kg	8.00		77.6	65-115	
Chrysene	6.35	5.0	ug/kg	8.00		79.4	65-115	
Dibenzo(a,h)anthracene	13.1	5.0	ug/kg	16.0		81.9	60-115	
Fluoranthene	12.7	5.0	ug/kg	16.0		79.4	65-115	
Fluorene	12.5	5.0	ug/kg	16.0		78.1	55-115	
Indeno(1,2,3-cd)pyrene	6.42	5.0	ug/kg	8.00		80.3	55-115	
Naphthalene	58.1	20	ug/kg	80.0		72.6	45-115	
Phenanthrene	5.78	5.0	ug/kg	8.00		72.3	55-120	
Pyrene	6.37	5.0	ug/kg	8.00		79.6	55-115	

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 Clifton J. Kiser  
 Project Manager

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Client Project ID: E1F070343

Report Number: CKF0105

Sampled:05/29/01-05/31/01  
 Received:06/08/01

## METHOD/BLANK/QC DATA

## POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	Data Qualifiers
---------	--------	-----------------	-------	-------------	---------------	------	-------------	---------	-----------------

Batch: C1F1107 Extracted: 06/11/01

LCS Analyzed: 06/12/01 (C1F1107-BS1)

Surrogate: 2-Methylnanthracene 5.24 ug/kg 8.00 65.5 35-115

Matrix Spike Analyzed: 06/12/01 (C1F1107-MS1)

Acenaphthene	58.5	50	ug/kg	80.0	ND	73.1	40-115
Acenaphthylene	122	50	ug/kg	160	ND	76.3	35-130
Anthracene	5.94	2.0	ug/kg	8.00	ND	74.3	40-115
Benzo(a)anthracene	6.54	2.0	ug/kg	8.00	0.14	80.0	45-130
Benzo(a)pyrene	6.37	2.0	ug/kg	8.00	ND	79.6	50-115
Benzo(b)fluoranthene	14.0	5.0	ug/kg	16.0	1.3	79.4	40-130
Benzo(g,h,i)perylene	15.0	5.0	ug/kg	16.0	1.2	86.2	45-115
Benzo(k)fluoranthene	6.53	2.0	ug/kg	8.00	0.42	76.4	40-125
Chrysene	8.69	5.0	ug/kg	8.00	1.4	91.1	45-125
Dibenz(a,h)anthracene	13.0	5.0	ug/kg	16.0	ND	81.3	25-130
Fluoranthene	13.8	5.0	ug/kg	16.0	ND	86.3	50-135
Fluorene	12.2	5.0	ug/kg	16.0	ND	76.2	35-120
Indeno(1,2,3-cd)pyrene	7.17	5.0	ug/kg	8.00	0.94	77.9	40-120
Naphthalene	57.2	20	ug/kg	80.0	ND	71.5	30-115
Phenanthrene	6.58	5.0	ug/kg	8.00	0.64	74.2	30-160
Pyrene	7.51	5.0	ug/kg	8.00	ND	93.9	20-165
Surrogate: 2-Methylnanthracene	5.80		ug/kg	8.00		72.5	35-115

Matrix Spike Dup Analyzed: 06/12/01 (C1F1107-MSD1)

Acenaphthene	55.4	50	ug/kg	80.0	ND	69.3	40-115	5.44	25
Acenaphthylene	114	50	ug/kg	160	ND	71.3	35-130	6.78	25
Anthracene	5.44	2.0	ug/kg	8.00	ND	68.0	40-115	8.79	25
Benzo(a)anthracene	6.38	2.0	ug/kg	8.00	0.14	78.0	45-130	2.48	20
Benzo(a)pyrene	5.02	2.0	ug/kg	8.00	ND	62.7	50-115	23.7	20
Benzo(b)fluoranthene	14.1	5.0	ug/kg	16.0	1.3	80.0	40-130	0.712	25
Benzo(g,h,i)perylene	15.2	5.0	ug/kg	16.0	1.2	87.5	45-115	1.32	20
Benzo(k)fluoranthene	6.40	2.0	ug/kg	8.00	0.42	74.8	40-125	2.01	25
Chrysene	8.67	5.0	ug/kg	8.00	1.4	90.9	45-125	0.230	30
Dibenz(a,h)anthracene	13.0	5.0	ug/kg	16.0	ND	81.3	25-130	0	30
Fluoranthene	12.8	5.0	ug/kg	16.0	ND	80.0	50-135	7.52	25
Fluorene	11.5	5.0	ug/kg	16.0	ND	71.9	35-120	5.91	20
Indeno(1,2,3-cd)pyrene	7.53	5.0	ug/kg	8.00	0.94	82.4	40-120	4.90	20

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Clifton J. Kiser  
 Project Manager

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STL Los Angeles  
1721 S. Grand Avenue  
Santa Ana, CA 92705  
Attention: Diane Suzuki

Client Project ID: E1F070343

Sampled:05/29/01-05/31/01  
Received:06/08/01

Report Number: CKF0105

### METHOD BEAN/QC DATA

### POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
<b>Batch: C1F1107 Extracted: 06/11/01</b>										
<b>Matrix Spike Dup Analyzed: 06/12/01 (C1F1107-MSD1)</b>										
<b>Source: CKF0108-01</b>										
Naphthalene	55.3	20	ug/kg	80.0	ND	69.1	30-115	3.38	25	
Phenanthrene	6.16	5.0	ug/kg	8.00	0.64	69.0	30-160	6.59	30	
Pyrene	6.87	5.0	ug/kg	8.00	ND	85.9	20-165	8.90	20	
Surrogate: 2-Methylnanthracene	5.15		ug/kg	8.00		64.4	35-115			

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Clifton J. Kiser  
Project Manager

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STL Los Angeles  
1721 S. Grand Avenue  
Santa Ana, CA 92705  
Attention: Diane Suzuki

Client Project ID: E1F070343

Report Number: CKF0105

Sampled:05/29/01-05/31/01  
Received:06/08/01

## DATA QUALIFIERS AND DEFINITIONS

- J** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of unknown quality.
- R** The RPD exceeded the method control limit due to sample matrix effects. The individual analyte QA/QC recoveries, however, were within acceptance limits.
- Z3** The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- NR** Not reported.
- RPD** Relative Percent Difference

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Project Manager

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## LABORATORY REPORT

Prepared For: STL Los Angeles  
1721 S. Grand Avenue  
Santa Ana, CA 92705

Attention: Diane Suzuki  
Project: E1F210319

Sampled: 06/13/01  
Received: 06/25/01  
Reported: 06/29/01

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A handwritten signature in black ink, appearing to read "Clifton J. Kiser".

**Del Mar Analytical, Colton**  
Clifton J. Kiser  
Project Manager

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**CKF0310 <Page 1 of 7>**



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STL Los Angeles  
 1721 S. Grand Avenue  
 Santa Ana, CA 92705  
 Attention: Diane Suzuki

Client Project ID: E1F210319

Report Number: CKF0310

Sampled:06/13/01  
 Received:06/25/01

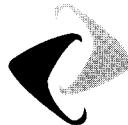
## POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
				ug/kg		ug/kg		
<b>Sample ID: CKF0310-01 (SP10B_39 @ 6 - Soil)</b>								
Acenaphthene	EPA 8310	C1F2702 100000	ND	2000	6/27/01	6/29/01		
Acenaphthylene	EPA 8310	C1F2702 100000	20000	2000	6/27/01	6/29/01	J	
Anthracene	EPA 8310	C1F2702 4000	4800	2000	6/27/01	6/29/01		
Benzo(a)anthracene	EPA 8310	C1F2702 4000	ND	2000	6/27/01	6/29/01		
Benzo(a)pyrene	EPA 8310	C1F2702 4000	2600	2000	6/27/01	6/29/01	J	
Benzo(b)fluoranthene	EPA 8310	C1F2702 10000	6800	2000	6/27/01	6/29/01	J	
Benzo(g,h,i)perylene	EPA 8310	C1F2702 10000	ND	2000	6/27/01	6/29/01		
Benzo(k)fluoranthene	EPA 8310	C1F2702 4000	4900	2000	6/27/01	6/29/01		
Chrysene	EPA 8310	C1F2702 10000	66000	2000	6/27/01	6/29/01		
Dibenzo(a,h)anthracene	EPA 8310	C1F2702 10000	1700	2000	6/27/01	6/29/01	J	
Fluoranthene	EPA 8310	C1F2702 10000	31000	2000	6/27/01	6/29/01		
Fluorene	EPA 8310	C1F2702 10000	20000	2000	6/27/01	6/29/01		
Indeno(1,2,3-cd)pyrene	EPA 8310	C1F2702 10000	610	2000	6/27/01	6/29/01	J	
Naphthalene	EPA 8310	C1F2702 40000	40000	2000	6/27/01	6/29/01		
Phenanthrene	EPA 8310	C1F2702 10000	62000	2000	6/27/01	6/29/01		
Pyrene	EPA 8310	C1F2702 10000	12000	2000	6/27/01	6/29/01		
Surrogate: 2-Methylnaphthalene (35-115%)						146000 %		Z3
<b>Sample ID: CKF0310-02 (SP10B_41 @ 6 - Soil)</b>								
Acenaphthene	EPA 8310	C1F2702 100000	ND	2000	6/27/01	6/29/01		
Acenaphthylene	EPA 8310	C1F2702 100000	ND	2000	6/27/01	6/29/01		
Anthracene	EPA 8310	C1F2702 4000	1800	2000	6/27/01	6/29/01	J	
Benzo(a)anthracene	EPA 8310	C1F2702 4000	ND	2000	6/27/01	6/29/01		
Benzo(a)pyrene	EPA 8310	C1F2702 4000	1500	2000	6/27/01	6/29/01	J	
Benzo(b)fluoranthene	EPA 8310	C1F2702 10000	3500	2000	6/27/01	6/29/01	J	
Benzo(g,h,i)perylene	EPA 8310	C1F2702 10000	ND	2000	6/27/01	6/29/01		
Benzo(k)fluoranthene	EPA 8310	C1F2702 4000	3100	2000	6/27/01	6/29/01	J	
Chrysene	EPA 8310	C1F2702 10000	31000	2000	6/27/01	6/29/01		
Dibenzo(a,h)anthracene	EPA 8310	C1F2702 10000	9900	2000	6/27/01	6/29/01	J	
Fluoranthene	EPA 8310	C1F2702 10000	13000	2000	6/27/01	6/29/01		
Fluorene	EPA 8310	C1F2702 10000	7400	2000	6/27/01	6/29/01	J	
Indeno(1,2,3-cd)pyrene	EPA 8310	C1F2702 10000	710	2000	6/27/01	6/29/01	J	
Naphthalene	EPA 8310	C1F2702 40000	ND	2000	6/27/01	6/29/01		
Phenanthrene	EPA 8310	C1F2702 10000	21000	2000	6/27/01	6/29/01		
Pyrene	EPA 8310	C1F2702 10000	5600	2000	6/27/01	6/29/01	J	
Surrogate: 2-Methylnaphthalene (35-115%)						71300 %		Z3

**Del Mar Analytical, Colton**  
 Clifton J. Kiser  
 Project Manager

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CKF0310 <Page 2 of 7>



STL Los Angeles  
 1721 S. Grand Avenue  
 Santa Ana, CA 92705  
 Attention: Diane Suzuki

Client Project ID: E1F210319

Report Number: CKF0310

Sampled:06/13/01  
 Received:06/25/01

## POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
				ug/kg		ug/kg		
<b>Sample ID: CKF0310-03 (SP10B_42 @ 2 - Soil)</b>								
Acenaphthene	EPA 8310	C1F2702	100000	ND	2000	6/27/01	6/29/01	
Acenaphthylene	EPA 8310	C1F2702	100000	ND	2000	6/27/01	6/29/01	
<b>Anthracene</b>	EPA 8310	C1F2702	4000	<b>1200</b>	2000	6/27/01	6/29/01	J
Benzo(a)anthracene	EPA 8310	C1F2702	4000	ND	2000	6/27/01	6/29/01	
<b>Benzo(a)pyrene</b>	EPA 8310	C1F2702	4000	<b>1300</b>	2000	6/27/01	6/29/01	J
<b>Benzo(b)fluoranthene</b>	EPA 8310	C1F2702	10000	<b>3800</b>	2000	6/27/01	6/29/01	J
Benzo(g,h,i)perylene	EPA 8310	C1F2702	10000	ND	2000	6/27/01	6/29/01	
<b>Benzo(k)fluoranthene</b>	EPA 8310	C1F2702	4000	<b>2700</b>	2000	6/27/01	6/29/01	J
Chrysene	EPA 8310	C1F2702	10000	<b>28000</b>	2000	6/27/01	6/29/01	
<b>Dibenzo(a,h)anthracene</b>	EPA 8310	C1F2702	10000	<b>8900</b>	2000	6/27/01	6/29/01	J
<b>Fluoranthene</b>	EPA 8310	C1F2702	10000	<b>10000</b>	2000	6/27/01	6/29/01	
Fluorene	EPA 8310	C1F2702	10000	<b>2600</b>	2000	6/27/01	6/29/01	J
<b>Indeno(1,2,3-cd)pyrene</b>	EPA 8310	C1F2702	10000	<b>810</b>	2000	6/27/01	6/29/01	J
Naphthalene	EPA 8310	C1F2702	40000	<b>6000</b>	2000	6/27/01	6/29/01	
<b>Phenanthrene</b>	EPA 8310	C1F2702	10000	<b>18000</b>	2000	6/27/01	6/29/01	
Pyrene	EPA 8310	C1F2702	10000	<b>4600</b>	2000	6/27/01	6/29/01	J
<i>Surrogate: 2-Methylanthracene (35-115%)</i>						54400 %		Z3
<b>Sample ID: CKF0310-04 (SP10B_24 @ 2 - Soil)</b>								
Acenaphthene	EPA 8310	C1F2702	100000	ND	2000	6/27/01	6/29/01	
Acenaphthylene	EPA 8310	C1F2702	100000	<b>10000</b>	2000	6/27/01	6/29/01	J
<b>Anthracene</b>	EPA 8310	C1F2702	4000	<b>3700</b>	2000	6/27/01	6/29/01	J
Benzo(a)anthracene	EPA 8310	C1F2702	4000	ND	2000	6/27/01	6/29/01	
<b>Benzo(a)pyrene</b>	EPA 8310	C1F2702	4000	<b>2600</b>	2000	6/27/01	6/29/01	J
<b>Benzo(b)fluoranthene</b>	EPA 8310	C1F2702	10000	<b>3200</b>	2000	6/27/01	6/29/01	J
Benzo(g,h,i)perylene	EPA 8310	C1F2702	10000	<b>6900</b>	2000	6/27/01	6/29/01	
<b>Benzo(k)fluoranthene</b>	EPA 8310	C1F2702	4000	<b>3800</b>	2000	6/27/01	6/29/01	J
Chrysene	EPA 8310	C1F2702	10000	<b>38000</b>	2000	6/27/01	6/29/01	
<b>Dibenzo(a,h)anthracene</b>	EPA 8310	C1F2702	10000	<b>1800</b>	2000	6/27/01	6/29/01	J
<b>Fluoranthene</b>	EPA 8310	C1F2702	10000	<b>23000</b>	2000	6/27/01	6/29/01	
Fluorene	EPA 8310	C1F2702	10000	<b>11000</b>	2000	6/27/01	6/29/01	
<b>Indeno(1,2,3-cd)pyrene</b>	EPA 8310	C1F2702	10000	<b>530</b>	2000	6/27/01	6/29/01	J
Naphthalene	EPA 8310	C1F2702	40000	<b>15000</b>	2000	6/27/01	6/29/01	
<b>Phenanthrene</b>	EPA 8310	C1F2702	10000	<b>39000</b>	2000	6/27/01	6/29/01	
Pyrene	EPA 8310	C1F2702	10000	<b>8600</b>	2000	6/27/01	6/29/01	J
<i>Surrogate: 2-Methylanthracene (35-115%)</i>						103000 %		Z3

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 Clifton J. Kiser  
 Project Manager

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CKF0310 &lt;Page 3 of 7&gt;



STL Los Angeles  
 1721 S. Grand Avenue  
 Santa Ana, CA 92705  
 Attention: Diane Suzuki

Client Project ID: E1F210319

Report Number: CKF0310

Sampled:06/13/01  
 Received:06/25/01

## POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
				ug/kg		ug/kg		
<b>Sample ID: CKF0310-05 (SP10B_33 @ 6 - Soil)</b>								
Acenaphthene	EPA 8310	C1F2702	2500	ND	50	6/27/01	6/29/01	
Acenaphthylene	EPA 8310	C1F2702	2500	240	50	6/27/01	6/29/01	J
Anthracene	EPA 8310	C1F2702	100	630	50	6/27/01	6/29/01	
Benzo(a)anthracene	EPA 8310	C1F2702	100	ND	50	6/27/01	6/29/01	
Benzo(a)pyrene	EPA 8310	C1F2702	100	150	50	6/27/01	6/29/01	
Benzo(b)fluoranthene	EPA 8310	C1F2702	250	110	50	6/27/01	6/29/01	J
Benzo(g,h,i)perylene	EPA 8310	C1F2702	250	25	50	6/27/01	6/29/01	J
Benzo(k)fluoranthene	EPA 8310	C1F2702	100	100	50	6/27/01	6/29/01	
Chrysene	EPA 8310	C1F2702	250	ND	50	6/27/01	6/29/01	
Dibenzo(a,h)anthracene	EPA 8310	C1F2702	250	280	50	6/27/01	6/29/01	
Fluoranthene	EPA 8310	C1F2702	250	2500	50	6/27/01	6/29/01	
Fluorene	EPA 8310	C1F2702	250	3700	50	6/27/01	6/29/01	
Indeno(1,2,3-cd)pyrene	EPA 8310	C1F2702	250	93	50	6/27/01	6/29/01	J
Naphthalene	EPA 8310	C1F2702	1000	340	50	6/27/01	6/29/01	J
Phenanthrene	EPA 8310	C1F2702	250	5600	50	6/27/01	6/29/01	
Pyrene	EPA 8310	C1F2702	250	2500	50	6/27/01	6/29/01	
<i>Surrogate: 2-Methylnanthracene (35-115%)</i>						12900 %		Z3

Del Mar Analytical, Colton  
 Clifton J. Kiser  
 Project Manager

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CKF0310 &lt;Page 4 of 7&gt;

STL Los Angeles  
 1721 S. Grand Avenue  
 Santa Ana, CA 92705  
 Attention: Diane Suzuki

Client Project ID: E1F210319

Report Number: CKF0310

Sampled:06/13/01  
 Received:06/25/01



### POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC Limits	RPD RPD	Data Limit Qualifiers
---------	--------	-----------------	-------	-------------	---------------	------------------	---------	-----------------------

Batch: C1F2702 Extracted: 06/27/01

**Blank Analyzed: 06/27/01 (C1F2702-BLK1)**

Acenaphthene	ND	50	ug/kg					
Acenaphthylene	ND	50	ug/kg					
Anthracene	ND	2.0	ug/kg					
Benzo(a)anthracene	ND	2.0	ug/kg					
Benzo(a)pyrene	ND	2.0	ug/kg					
Benzo(b)fluoranthene	ND	5.0	ug/kg					
Benzo(g,h,i)perylene	ND	5.0	ug/kg					
Benzo(k)fluoranthene	ND	2.0	ug/kg					
Chrysene	ND	5.0	ug/kg					
Dibenz(a,h)anthracene	ND	5.0	ug/kg					
Fluoranthene	ND	5.0	ug/kg					
Fluorene	0.602	5.0	ug/kg					J
Indeno(1,2,3-cd)pyrene	ND	5.0	ug/kg					
Naphthalene	ND	20	ug/kg					
Phenanthrene	ND	5.0	ug/kg					
Pyrene	ND	5.0	ug/kg					
<i>Surrogate: 2-Methylanthracene</i>	5.21		ug/kg	8.00		65.1	35-115	

**LCS Analyzed: 06/27/01 (C1F2702-BS1)**

Acenaphthene	63.2	50	ug/kg	80.0		79.0	45-115	
Acenaphthylene	121	50	ug/kg	160		75.6	50-115	
Anthracene	5.58	2.0	ug/kg	8.00		69.7	55-115	
Benzo(a)anthracene	6.75	2.0	ug/kg	8.00		84.4	65-115	
Benzo(a)pyrene	5.72	2.0	ug/kg	8.00		71.5	55-115	
Benzo(b)fluoranthene	12.5	5.0	ug/kg	16.0		78.1	65-115	
Benzo(g,h,i)perylene	13.8	5.0	ug/kg	16.0		86.3	60-115	
Benzo(k)fluoranthene	5.84	2.0	ug/kg	8.00		73.0	65-115	
Chrysene	6.64	5.0	ug/kg	8.00		83.0	65-115	
Dibenz(a,h)anthracene	13.6	5.0	ug/kg	16.0		85.0	60-115	
Fluoranthene	12.2	5.0	ug/kg	16.0		76.2	65-115	
Fluorene	12.6	5.0	ug/kg	16.0		78.8	55-115	
Indeno(1,2,3-cd)pyrene	6.22	5.0	ug/kg	8.00		77.7	55-115	
Naphthalene	57.8	20	ug/kg	80.0		72.2	45-115	
Phenanthrene	5.61	5.0	ug/kg	8.00		70.1	55-120	
Pyrene	7.15	5.0	ug/kg	8.00		89.4	55-115	

**Del Mar Analytical, Colton**

Clifton J. Kiser

Project Manager

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CKF0310 <Page 5 of 7>



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9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-9596 FAX (858) 505-9689  
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

STL Los Angeles  
1721 S. Grand Avenue  
Santa Ana, CA 92705  
Attention: Diane Suzuki

Client Project ID: E1F210319

Report Number: CKF0310

Sampled:06/13/01  
Received:06/25/01



### POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	Data Limit Qualifiers
---------	--------	-----------------	-------	-------------	---------------	-----------	-------------	---------	-----------------------

Batch: C1F2702 Extracted: 06/27/01

LCS Analyzed: 06/27/01 (C1F2702-BS1)

Surrogate: 2-Methylnanthracene

5.59

ug/kg

8.00

69.9 35-115

Del Mar Analytical, Colton  
Clifton J. Kiser  
Project Manager

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CKF0310 <Page 6 of 7>



**Del Mar Analytical**

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9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

STL Los Angeles  
1721 S. Grand Avenue  
Santa Ana, CA 92705  
Attention: Diane Suzuki

Client Project ID: E1F210319

Report Number: CKF0310

Sampled:06/13/01  
Received:06/25/01

## **DATA QUALIFIERS AND DEFINITIONS**

- J** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of unknown quality.
- Z3** The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- NR** Not reported.
- RPD** Relative Percent Difference

**Del Mar Analytical, Colton**  
Clifton J. Kiser  
Project Manager

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**CKF0310 <Page 7 of 7>**

**BOE-C6-0000837**

**Chain of  
Custody Record**

*Sample Collector*

SEVERN  
TRENT  
SHREWSBURY

**Severn Trent Laboratories, Inc.**

STL4124 (0700)

Client

STL - CM

Address

1721 S Grand Ave

City

CHICAGO

State

IL

Zip Code

60615

Project Name and Location (State)

TNT

Contract/Purchase Order/Quote No.

714

Telephone Number (Area Code)/Fax Number

714 258 8610 X 309

Site Contact

D. Sauer

Carrier/Maybill Number

83101PAHS

Lab Contact

D. Sauer

Date

6/21/01

Chain of Custody Number

053472

Lab Number

E1F210319

Page

1 of 1

Analysis (Attach list if  
more space is needed)

Special Instructions/  
Conditions of Receipt

Sample I.D. No. and Description  
(Containers for each sample may be combined on one line)

SP10B-39@6

Date

6/13/01

Time

15:41

Air

X

Aqueous

X

Sed.

1

Soil

1

Unpres.

C

H2SO4

C

HNOS

C

HCl

C

NaOH

C

ZnAc/  
NaOH

C

SP10B-41@6

6/13/01

15:49

X

1

SP10B-42@2

6/13/01

15:54

X

1

SP10B-42@2

6/13/01

14:15

X

1

SP10B-33@6

6/13/01

15:03

X

1

Possible Hazard Identification

Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown  Return To Client

Disposal By Lab  Archive For \_\_\_\_\_ Months (longer than 3 months)

Turn Around Time Required

24 Hours  48 Hours  7 Days  14 Days  21 Days  Other: 4-8 days

QC Requirements (Specify)

1. Relinquished By

*Don Jacobs*

Date

6/21/01

Time

16:30

2. Received By

*John*

Date

6/25/01

Time

11:20

3. Received By

*John*

Date

6/25/01

Time

11:20

Events

NOTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

70°C

BOE-C6-0000838



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9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-9598 FAX (858) 505-9689  
9930 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

## LABORATORY REPORT

Prepared For: STL Los Angeles  
1721 S. Grand Avenue  
Santa Ana, CA 92705

Attention: Diane Suzuki  
Project: E1G030174

Sampled: 06/13/01  
Received: 07/03/01  
Reported: 07/06/01

*This laboratory report is confidential and is intended for the sole use of  
Del Mar Analytical and its client. This entire report was reviewed and approved for release.*

CA ELAP Certificate #1169  
AZ DHS License #AZ0062

Mar Analytical, Colton  
John J. Kiser  
Project Manager

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CKG0020 <Page 1 of 6>



Del Mar Analytical

STL Los Angeles  
1721 S. Grand Avenue  
Santa Ana, CA 92705  
Attention: Diane Suzuki

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228  
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (800) 570-4667 FAX (800) 870-1046  
7277 Hayvenhurst, Suite B-12, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843  
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-9595 FAX (619) 505-9889  
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

Client Project ID: E1G030174

Report Number: CKG0020

Sampled: 06/13/01  
Received: 07/03/01

## POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Method	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: CKG0020-01 (SP10A_10@2 - Soil)</b>							
Acenaphthene	EPA 8310	C1G0312 10000	ND	200	7/3/01	7/5/01	H3
Acenaphthylene	EPA 8310	C1G0312 10000	9000	200	7/3/01	7/5/01	J
Anthracene	EPA 8310	C1G0312 400	940	200	7/3/01	7/5/01	
Benzo(a)anthracene	EPA 8310	C1G0312 400	ND	200	7/3/01	7/5/01	
Benzo(a)pyrene	EPA 8310	C1G0312 400	ND	200	7/3/01	7/5/01	
Benzo(b)fluoranthene	EPA 8310	C1G0312 1000	370	200	7/3/01	7/5/01	
Benzo(g,h,i)perylene	EPA 8310	C1G0312 1000	ND	200	7/3/01	7/5/01	J
Benzo(k)fluoranthene	EPA 8310	C1G0312 400	ND	200	7/3/01	7/5/01	
Chrysene	EPA 8310	C1G0312 1000	3500	200	7/3/01	7/5/01	
Dibenzo(a,h)anthracene	EPA 8310	C1G0312 1000	440	200	7/3/01	7/5/01	
Fluoranthene	EPA 8310	C1G0312 1000	2400	200	7/3/01	7/5/01	J
Fluorene	EPA 8310	C1G0312 1000	2400	200	7/3/01	7/5/01	
Indeno(1,2,3-cd)pyrene	EPA 8310	C1G0312 1000	2400	200	7/3/01	7/5/01	
Phthalene	EPA 8310	C1G0312 1000	ND	200	7/3/01	7/5/01	
phenanthrene	EPA 8310	C1G0312 4000	1000	200	7/3/01	7/5/01	J
Pyrene	EPA 8310	C1G0312 1000	4700	200	7/3/01	7/5/01	
Surrogate: 2-Methylanthracene (35-115%)			690	200	7/3/01	7/5/01	J
<b>Sample ID: CKG0020-02 (SP10B_26@2 - Soil)</b>							Z3
cenaphthene	EPA 8310	C1G0312100000	ND	2000	7/3/01	7/5/01	H3
cenaphthylene	EPA 8310	C1G0312100000	8600	2000	7/3/01	7/5/01	J
anthracene	EPA 8310	C1G0312 4000	2700	2000	7/3/01	7/5/01	
benzo(a)anthracene	EPA 8310	C1G0312 4000	ND	2000	7/3/01	7/5/01	J
benzo(a)pyrene	EPA 8310	C1G0312 4000	ND	2000	7/3/01	7/5/01	
benzo(b)fluoranthene	EPA 8310	C1G0312 4000	ND	2000	7/3/01	7/5/01	
benzo(g,h,i)perylene	EPA 8310	C1G0312 10000	4300	2000	7/3/01	7/5/01	J
benzo(k)fluoranthene	EPA 8310	C1G0312 10000	1300	2000	7/3/01	7/5/01	
Chrysene	EPA 8310	C1G0312 4000	ND	2000	7/3/01	7/5/01	
Dibenzo(a,h)anthracene	EPA 8310	C1G0312 10000	42000	2000	7/3/01	7/5/01	
Fluoranthene	EPA 8310	C1G0312 10000	8500	2000	7/3/01	7/5/01	J
Fluorene	EPA 8310	C1G0312 10000	16000	2000	7/3/01	7/5/01	
Indeno(1,2,3-cd)pyrene	EPA 8310	C1G0312 10000	9500	2000	7/3/01	7/5/01	J
Phthalene	EPA 8310	C1G0312 10000	ND	2000	7/3/01	7/5/01	
phenanthrene	EPA 8310	C1G0312 40000	9000	2000	7/3/01	7/5/01	
Pyrene	EPA 8310	C1G0312 10000	29000	2000	7/3/01	7/5/01	J
Surrogate: 2-Methylanthracene (35-115%)	EPA 8310	C1G0312 10000	6300	2000	7/3/01	7/5/01	J
			98600 %				Z3

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CKG0020 &lt;Page 2 of 6&gt;



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STL Los Angeles  
 1721 S. Grand Avenue  
 Santa Ana, CA 92705  
 Attention: Diane Suzuki

Client Project ID: E1G030174

Report Number: CKG0020

Sampled: 06/13/01  
 Received: 07/03/01

## POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Method	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: CKG0020-03 (SP10B_29@6 - Soil)</b>							
Acenaphthene	EPA 8310	C1G0312 25000	ND	500	7/3/01	7/5/01	H3
Acenaphthylene	EPA 8310	C1G0312 25000	11000	500	7/3/01	7/5/01	
Anthracene	EPA 8310	C1G0312 1000	2000	500	7/3/01	7/5/01	J
Benzo(a)anthracene	EPA 8310	C1G0312 1000	ND	500	7/3/01	7/5/01	
Benzo(a)pyrene	EPA 8310	C1G0312 1000	ND	500	7/3/01	7/5/01	
Benzo(b)fluoranthene	EPA 8310	C1G0312 1000	ND	500	7/3/01	7/5/01	
Benzo(g,h,i)perylene	EPA 8310	C1G0312 2500	1400	500	7/3/01	7/5/01	
Benzo(k)fluoranthene	EPA 8310	C1G0312 2500	870	500	7/3/01	7/5/01	J
Chrysene	EPA 8310	C1G0312 1000	ND	500	7/3/01	7/5/01	J
Diabeno(a,h)anthracene	EPA 8310	C1G0312 2500	12000	500	7/3/01	7/5/01	
Tuoranthene	EPA 8310	C1G0312 2500	2900	500	7/3/01	7/5/01	
Tuorene	EPA 8310	C1G0312 2500	7100	500	7/3/01	7/5/01	
Indeno(1,2,3-cd)pyrene	EPA 8310	C1G0312 2500	7700	500	7/3/01	7/5/01	
Aphthalene	EPA 8310	C1G0312 2500	ND	500	7/3/01	7/5/01	
benanthrene	EPA 8310	C1G0312 10000	1300	500	7/3/01	7/5/01	
Yrene	EPA 8310	C1G0312 2500	19000	500	7/3/01	7/5/01	J
Surrogate: 2-Methylanthracene (35-115%)	EPA 8310	C1G0312 2500	2700	500	7/3/01	7/5/01	
<b>Sample ID: CKG0020-04 (SP10B_30@2 - Soil)</b>							
Xenaphthene	EPA 8310	C1G0312 10000	ND	200	7/3/01	7/5/01	H3
Xenaphthylene	EPA 8310	C1G0312 10000	16000	200	7/3/01	7/5/01	
Thracene	EPA 8310	C1G0312 400	1600	200	7/3/01	7/5/01	
Benzo(a)anthracene	EPA 8310	C1G0312 400	ND	200	7/3/01	7/5/01	
Benzo(a)pyrene	EPA 8310	C1G0312 400	ND	200	7/3/01	7/5/01	
Benzo(b)fluoranthene	EPA 8310	C1G0312 400	ND	200	7/3/01	7/5/01	
Benzo(g,h,i)perylene	EPA 8310	C1G0312 1000	590	200	7/3/01	7/5/01	
Benzo(k)fluoranthene	EPA 8310	C1G0312 1000	ND	200	7/3/01	7/5/01	J
Chrysene	EPA 8310	C1G0312 400	ND	200	7/3/01	7/5/01	
Diabeno(a,h)anthracene	EPA 8310	C1G0312 1000	5400	200	7/3/01	7/5/01	
Tuoranthene	EPA 8310	C1G0312 1000	1200	200	7/3/01	7/5/01	
Tuorene	EPA 8310	C1G0312 1000	5200	200	7/3/01	7/5/01	
Indeno(1,2,3-cd)pyrene	EPA 8310	C1G0312 1000	6400	200	7/3/01	7/5/01	
Aphthalene	EPA 8310	C1G0312 1000	ND	200	7/3/01	7/5/01	
benanthrene	EPA 8310	C1G0312 4000	1600	200	7/3/01	7/5/01	
Yrene	EPA 8310	C1G0312 1000	14000	200	7/3/01	7/5/01	J
Surrogate: 2-Methylanthracene (35-115%)	EPA 8310	C1G0312 1000	1400	200	7/3/01	7/5/01	
			32600 %				Z3

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 Project Manager

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Client Project ID: E1G030174

Report Number: CKG0020

Sampled: 06/13/01  
Received: 07/03/01

## POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: C1G0312 Extracted: 07/03/01</u>										
Blank Analyzed: 07/05/01 (C1G0312-BLK1)										J
Acenaphthene	4.95	50	ug/kg							
Acenaphthylene	ND	50	ug/kg							
Anthracene	ND	2.0	ug/kg							
Benzo(a)anthracene	ND	2.0	ug/kg							
Benzo(a)pyrene	ND	2.0	ug/kg							
Benzo(b)fluoranthene	ND	2.0	ug/kg							
Benzo(g,h,i)perylene	ND	5.0	ug/kg							
Benzo(k)fluoranthene	ND	5.0	ug/kg							
Chrysene	ND	2.0	ug/kg							
IBenzo(a,h)anthracene	ND	5.0	ug/kg							
Fluoranthene	ND	5.0	ug/kg							
Fluorene	ND	5.0	ug/kg							
Phenanthrene	0.582	5.0	ug/kg							
Pyrene	ND	20	ug/kg							
Tetraene	ND	5.0	ug/kg							
Proximate: 2-Methylnaphthalene	4.28	5.0	ug/kg	8.00		53.5	35-115			J
<u>IS Analyzed: 07/03/01 (C1G0312-BS1)</u>										
Benaphthene	56.7	50	ug/kg	80.0		70.9	45-115			
Benaphthylene	117	50	ug/kg	160		73.1	50-115			
Thracene	5.83	2.0	ug/kg	8.00		72.9	55-115			
Izo(a)anthracene	6.59	2.0	ug/kg	8.00		82.4	65-115			
Izo(a)pyrene	5.37	2.0	ug/kg	8.00		67.1	55-115			
Izo(b)fluoranthene	13.1	5.0	ug/kg	16.0		81.9	65-115			
Izo(g,h,i)perylene	12.5	5.0	ug/kg	16.0		78.1	60-115			
Izo(k)fluoranthene	6.46	2.0	ug/kg	8.00		80.8	65-115			
Phenanthrene	6.35	5.0	ug/kg	8.00		79.4	65-115			
IBenzo(a,h)anthracene	12.9	5.0	ug/kg	16.0		80.6	60-115			
Fluoranthene	13.0	5.0	ug/kg	16.0		81.2	65-115			
Pyrene	12.4	5.0	ug/kg	16.0		77.5	55-115			
Pheno(1,2,3-cd)pyrene	6.33	5.0	ug/kg	8.00		79.1	55-115			
Phthalene	59.3	20	ug/kg	80.0		74.1	45-115			
Anthracene	6.07	5.0	ug/kg	8.00		75.9	55-120			
Fluorene	6.13	5.0	ug/kg	8.00		76.6	55-115			

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STL Los Angeles  
 1721 S. Grand Avenue  
 Santa Ana, CA 92705  
 Attention: Diane Suzuki

Client Project ID: E1G030174

Report Number: CKG0020

Sampled: 06/13/01  
 Received: 07/03/01

## POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
<u>Batch: C1G0312 Extracted: 07/03/01</u>										
<b>LCS Analyzed: 07/05/01 (C1G0312-BS1)</b>										
<i>Surrogate: 2-Methylanthracene</i> 5.35										
<b>LCS Dup Analyzed: 07/05/01 (C1G0312-BSD1)</b>										
Acenaphthene	57.2	50	ug/kg	8.00		66.9	35-115			
Acenaphthylene	121	50	ug/kg	160		71.5	45-115	0.878	25	
Anthracene	6.07	2.0	ug/kg	8.00		75.6	50-115	3.36	25	
Benz(a)anthracene	6.79	2.0	ug/kg	8.00		75.9	55-115	4.03	25	
Benz(a)pyrene	5.64	2.0	ug/kg	8.00		84.9	65-115	2.99	20	
Benz(b)fluoranthene	13.4	5.0	ug/kg	8.00		70.5	55-115	4.90	20	
Benz(g,h,i)perylene	12.9	5.0	ug/kg	16.0		83.8	65-115	2.26	20	
Benz(k)fluoranthene	6.62	2.0	ug/kg	8.00		80.6	60-115	3.15	20	
benzene	6.57	5.0	ug/kg	8.00		82.8	65-115	2.45	20	
benzo(a,h)anthracene	13.3	5.0	ug/kg	8.00		82.1	65-115	3.41	20	
benzanthrone	13.4	5.0	ug/kg	16.0		83.1	60-115	3.05	20	
benzene	12.6	5.0	ug/kg	16.0		83.8	65-115	3.03	30	
benzo(1,2,3-cd)pyrene	6.44	5.0	ug/kg	16.0		78.8	55-115	1.60	20	
benzene	58.8	20	ug/kg	80.0		80.5	55-115	1.72	20	
benzene	6.17	5.0	ug/kg	8.00		73.5	45-115	0.847	25	
benzene	6.19	5.0	ug/kg	8.00		77.1	55-120	1.63	30	
<i>Surrogate: 2-Methylanthracene</i>	5.54		ug/kg	8.00		77.4	55-115	0.974	20	
			ug/kg	8.00		69.2	35-115			

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 Jon J. Kiser  
 Project Manager

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STL Los Angeles  
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 Santa Ana, CA 92705  
 Attention: Diane Suzuki

Client Project ID: E1G030174

Report Number: CKG0020

Sampled:06/13/01  
 Received:07/03/01

## DATA QUALIFIERS AND DEFINITIONS

- H3 Sample was received and analyzed past holding time.
- J Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of unknown quality.
- Z3 The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
- ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- NR Not reported.
- RPD Relative Percent Difference

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## LABORATORY REPORT

Prepared For: STL Los Angeles  
1721 S. Grand Avenue  
Santa Ana, CA 92705

Attention: Diane Suzuki  
Project: E1G050169

Sampled: 07/05/01  
Received: 07/05/01  
Reported: 07/06/01

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Del Mar Analytical and its client. This entire report was reviewed and approved for release.*

CA ELAP Certificate #1169  
AZ DHS License #AZ0062

A handwritten signature in black ink, appearing to read "Clif K".

**Del Mar Analytical, Colton**  
Clifton J. Kiser  
Project Manager

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**CKG0030 <Page 1 of 6>**



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STL Los Angeles  
 1721 S. Grand Avenue  
 Santa Ana, CA 92705  
 Attention: Diane Suzuki

Client Project ID: E1G050169

Report Number: CKG0030

Sampled:07/05/01

Received:07/05/01

## POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			ug/kg	ug/kg				
<b>Sample ID: CKG0030-01 (SP_1_070501_2' - Soil)</b>								
Acenaphthene	EPA 8310	C1G0606	1000	ND	20	7/6/01	7/6/01	
Acenaphthylene	EPA 8310	C1G0606	1000	ND	20	7/6/01	7/6/01	
Anthracene	EPA 8310	C1G0606	40	8.5	20	7/6/01	7/6/01	J
Benzo(a)anthracene	EPA 8310	C1G0606	40	44	20	7/6/01	7/6/01	
Benzo(a)pyrene	EPA 8310	C1G0606	40	73	20	7/6/01	7/6/01	
Benzo(b)fluoranthene	EPA 8310	C1G0606	100	75	20	7/6/01	7/6/01	J
Benzo(g,h,i)perylene	EPA 8310	C1G0606	100	67	20	7/6/01	7/6/01	J
Benzo(k)fluoranthene	EPA 8310	C1G0606	40	26	20	7/6/01	7/6/01	J
Chrysene	EPA 8310	C1G0606	100	19	20	7/6/01	7/6/01	J
Dibenzo(a,h)anthracene	EPA 8310	C1G0606	100	ND	20	7/6/01	7/6/01	
Fluoranthene	EPA 8310	C1G0606	100	70	20	7/6/01	7/6/01	J
Fluorene	EPA 8310	C1G0606	100	ND	20	7/6/01	7/6/01	
Indeno(1,2,3-cd)pyrene	EPA 8310	C1G0606	100	67	20	7/6/01	7/6/01	J
Naphthalene	EPA 8310	C1G0606	400	ND	20	7/6/01	7/6/01	
Phenanthrene	EPA 8310	C1G0606	100	41	20	7/6/01	7/6/01	J
Pyrene	EPA 8310	C1G0606	100	68	20	7/6/01	7/6/01	J
<i>Surrogate: 2-Methylnanthracene (35-115%)</i>						151 %		ZX

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 Clifton J. Kiser  
 Project Manager

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STL Los Angeles  
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Client Project ID: E1G050169

Sampled:07/05/01  
 Received:07/05/01

Report Number: CKG0030

## POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-----------------

Batch: C1G0606 Extracted: 07/06/01

**Blank Analyzed: 07/06/01 (C1G0606-BLK1)**

Acenaphthene	ND	50	ug/kg							
Acenaphthylene	ND	50	ug/kg							
Anthracene	ND	2.0	ug/kg							
Benzo(a)anthracene	ND	2.0	ug/kg							
Benzo(a)pyrene	ND	2.0	ug/kg							
Benzo(b)fluoranthene	ND	5.0	ug/kg							
Benzo(g,h,i)perylene	ND	5.0	ug/kg							
Benzo(k)fluoranthene	ND	2.0	ug/kg							
Chrysene	ND	5.0	ug/kg							
Dibenz(a,h)anthracene	ND	5.0	ug/kg							
Fluoranthene	ND	5.0	ug/kg							
Fluorene	ND	5.0	ug/kg							
Indeno(1,2,3-cd)pyrene	ND	5.0	ug/kg							
Naphthalene	ND	20	ug/kg							
Phenanthrene	ND	5.0	ug/kg							
Pyrene	ND	5.0	ug/kg							
<i>Surrogate: 2-Methylnanthracene</i>	6.32		ug/kg	8.00		79.0	35-115			

**LCS Analyzed: 07/06/01 (C1G0606-BS1)**

Acenaphthene	62.8	50	ug/kg	80.0		78.5	45-115			
Acenaphthylene	126	50	ug/kg	160		78.8	50-115			
Anthracene	6.45	2.0	ug/kg	8.00		80.6	55-115			
Benzo(a)anthracene	7.01	2.0	ug/kg	8.00		87.6	65-115			
Benzo(a)pyrene	6.17	2.0	ug/kg	8.00		77.1	55-115			
Benzo(b)fluoranthene	13.5	5.0	ug/kg	16.0		84.4	65-115			
Benzo(g,h,i)perylene	13.3	5.0	ug/kg	16.0		83.1	60-115			
Benzo(k)fluoranthene	6.65	2.0	ug/kg	8.00		83.1	65-115			
Chrysene	6.68	5.0	ug/kg	8.00		83.5	65-115			
Dibenz(a,h)anthracene	13.7	5.0	ug/kg	16.0		85.6	60-115			
Fluoranthene	13.3	5.0	ug/kg	16.0		83.1	65-115			
Fluorene	12.8	5.0	ug/kg	16.0		80.0	55-115			
Indeno(1,2,3-cd)pyrene	6.50	5.0	ug/kg	8.00		81.2	55-115			
Naphthalene	58.8	20	ug/kg	80.0		73.5	45-115			
Phenanthrene	6.06	5.0	ug/kg	8.00		75.8	55-120			
Pyrene	6.38	5.0	ug/kg	8.00		79.8	55-115			

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**CKG0030 <Page 3 of 6>**



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STL Los Angeles  
 1721 S. Grand Avenue  
 Santa Ana, CA 92705  
 Attention: Diane Suzuki

Client Project ID: E1G050169

Report Number: CKG0030

Sampled:07/05/01

Received:07/05/01

## POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-----------------

Batch: C1G0606 Extracted: 07/06/01

LCS Analyzed: 07/06/01 (C1G0606-BS1)

Surrogate: 2-Methylnanthracene 6.22 ug/kg 8.00 77.8 35-115

Matrix Spike Analyzed: 07/06/01 (C1G0606-MS1)

Acenaphthene	1930	1000	ug/kg	80.0	ND	2410	40-115		MI
Acenaphthylene	ND	1000	ug/kg	160	ND		35-130		MI
Anthracene	319	40	ug/kg	8.00	8.5	3880	40-115		M2
Benzo(a)anthracene	562	40	ug/kg	8.00	44	6480	45-130		MI
Benzo(a)pyrene	405	40	ug/kg	8.00	73	4150	50-115		MI
Benzo(b)fluoranthene	397	100	ug/kg	16.0	75	2010	40-130		MI
Benzo(g,h,i)perylene	189	100	ug/kg	16.0	67	762	45-115		MI
Benzo(k)fluoranthene	184	40	ug/kg	8.00	26	1980	40-125		MI
Chrysene	501	100	ug/kg	8.00	19	6020	45-125		MI
Dibenzo(a,h)anthracene	ND	100	ug/kg	16.0	ND		25-130		M2
Fluoranthene	1430	100	ug/kg	16.0	70	8500	50-135		MI
Fluorene	303	100	ug/kg	16.0	ND	1890	35-120		MI
Indeno(1,2,3-cd)pyrene	221	100	ug/kg	8.00	67	1920	40-120		MI
Naphthalene	ND	400	ug/kg	80.0	ND		30-115		M2
Phenanthrene	1440	100	ug/kg	8.00	41	17500	30-160		MI
Pyrene	1010	100	ug/kg	8.00	68	11800	20-165		MI
Surrogate: 2-Methylnanthracene	102		ug/kg	8.00		1280	35-115		ZX

Matrix Spike Dup Analyzed: 07/06/01 (C1G0606-MSD1)

Acenaphthene	129	1000	ug/kg	80.0	ND	161	40-115	175	25	M1,J
Acenaphthylene	121	1000	ug/kg	160	ND	75.6	35-130		25	J
Anthracene	19.8	40	ug/kg	8.00	8.5	141	40-115	177	25	M1,R3,J
Benzo(a)anthracene	49.3	40	ug/kg	8.00	44	66.2	45-130	168	20	R3
Benzo(a)pyrene	89.1	40	ug/kg	8.00	73	201	50-115	128	20	M1,R3
Benzo(b)fluoranthene	99.5	100	ug/kg	16.0	75	153	40-130	120	25	M1,R3,J
Benzo(g,h,i)perylene	81.5	100	ug/kg	16.0	67	90.6	45-115	79.5	20	M1,J
Benzo(k)fluoranthene	36.8	40	ug/kg	8.00	26	135	40-125	133	25	M1,R3,J
Chrysene	30.3	100	ug/kg	8.00	19	141	45-125	177	30	M1,R3,J
Dibenzo(a,h)anthracene	ND	100	ug/kg	16.0	ND		25-130		30	M2,R3
Fluoranthene	99.7	100	ug/kg	16.0	70	186	50-135	174	25	M1,R3,J
Fluorene	15.0	100	ug/kg	16.0	ND	93.8	35-120	181	20	R3,J
Indeno(1,2,3-cd)pyrene	97.3	100	ug/kg	8.00	67	379	40-120	77.7	20	M2,R3,J

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 Project Manager

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STL Los Angeles  
1721 S. Grand Avenue  
Santa Ana, CA 92705  
Attention: Diane Suzuki

Client Project ID: E1G050169

Report Number: CKG0030

Sampled:07/05/01

Received:07/05/01



## POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Data Limit Qualifiers
<u>Batch: C1G0606 Extracted: 07/06/01</u>									
Matrix Spike Dup Analyzed: 07/06/01 (C1G0606-MSD1)					Source: CKG0030-01				
Naphthalene	38.6	400	ug/kg	80.0	ND	48.2	30-115	25	J
Phenanthrene	29.3	100	ug/kg	8.00	41	-146	30-160	192	30 M1,R3,J
Pyrene	79.7	100	ug/kg	8.00	68	146	20-165	171	20 R3,J
Surrogate: 2-Methylnanthracene	13.2		ug/kg	8.00		165	35-115		ZX

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Attention: Diane Suzuki

Client Project ID: E1G050169

Report Number: CKG0030

Sampled:07/05/01

Received:07/05/01

## DATA QUALIFIERS AND DEFINITIONS

- J** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of unknown quality.
- M1** The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
- M2** The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
- R3** The RPD exceeded the method control limit due to sample matrix effects.
- ZX** Due to sample matrix effects, the surrogate recovery was outside the acceptance limits.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- NR** Not reported.
- RPD** Relative Percent Difference

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**CKG0030 <Page 6 of 6>**

# Chain of Custody Record

STL-4124 (0700)

Client

Address

City

State

Zip Code

Telephone Number (Area Code/Fax Number)

Lab Number

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of



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## LABORATORY REPORT

Prepared For: STL Los Angeles  
1721 S. Grand Avenue  
Santa Ana, CA 92705

Attention: Diane Suzuki  
Project: EIG110276

Sampled: 07/11/01  
Received: 07/11/01  
Reported: 07/13/01

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Project Manager

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STL Los Angeles  
 1721 S. Grand Avenue  
 Santa Ana, CA 92705  
 Attention: Diane Suzuki

Client Project ID: EIG110276

Report Number: CKG0085

Sampled:07/11/01  
 Received:07/11/01

## POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Method	Reporting Batch	Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			ug/kg	ug/kg				
<b>Sample ID: CKG0085-01 (SP-10A-45 - Soil)</b>								
Acenaphthene	EPA 8310	C1G1208	2500	ND	50	7/12/01	7/13/01	
Acenaphthylene	EPA 8310	C1G1208	2500	850	50	7/12/01	7/13/01	J
Anthracene	EPA 8310	C1G1208	100	98	50	7/12/01	7/13/01	J
Benzo(a)anthracene	EPA 8310	C1G1208	100	31	50	7/12/01	7/13/01	J
Benzo(a)pyrene	EPA 8310	C1G1208	100	ND	50	7/12/01	7/13/01	J
Benzo(b)fluoranthene	EPA 8310	C1G1208	250	23	50	7/12/01	7/13/01	J
Benzo(g,h,i)perylene	EPA 8310	C1G1208	250	84	50	7/12/01	7/13/01	J
Benzo(k)fluoranthene	EPA 8310	C1G1208	100	12	50	7/12/01	7/13/01	J
Chrysene	EPA 8310	C1G1208	250	ND	50	7/12/01	7/13/01	
Dibenz(a,h)anthracene	EPA 8310	C1G1208	250	ND	50	7/12/01	7/13/01	
Fluoranthene	EPA 8310	C1G1208	250	1100	50	7/12/01	7/13/01	
Fluorene	EPA 8310	C1G1208	250	1000	50	7/12/01	7/13/01	
Indeno(1,2,3-cd)pyrene	EPA 8310	C1G1208	250	33	50	7/12/01	7/13/01	J
Naphthalene	EPA 8310	C1G1208	1000	ND	50	7/12/01	7/13/01	
Phenanthrene	EPA 8310	C1G1208	250	1700	50	7/12/01	7/13/01	L1
Pyrene	EPA 8310	C1G1208	250	72	50	7/12/01	7/13/01	J
<i>Surrogate: 2-Methylnanthracene (35-115%)</i>							4650 %	Z3

Del Mar Analytical, Colton  
 Clinton J. Kiser  
 Project Manager

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Client Project ID: EIG110276

Report Number: CKG0085

Sampled: 07/11/01  
Received: 07/11/01

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## POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
<u>Batch: C1G1208 Extracted: 07/12/01</u>										
<b>Blank Analyzed: 07/12/01 (C1G1208-BLK1)</b>										
Acenaphthene	ND	50	ug/kg							
Acenaphthylene	ND	50	ug/kg							
Anthracene	ND	2.0	ug/kg							
Benzo(a)anthracene	ND	2.0	ug/kg							
Benzo(a)pyrene	ND	2.0	ug/kg							
Benzo(b)fluoranthene	ND	5.0	ug/kg							
Benzo(g,h,i)perylene	ND	5.0	ug/kg							
Benzo(k)fluoranthene	ND	2.0	ug/kg							
Chrysene	ND	5.0	ug/kg							
Dibenzo(a,h)anthracene	ND	5.0	ug/kg							
Fluoranthene	ND	5.0	ug/kg							
Fluorene	0.433	5.0	ug/kg							J
Indeno(1,2,3-cd)pyrene	ND	5.0	ug/kg							
Naphthalene	ND	20	ug/kg							
Phenanthrene	0.481	5.0	ug/kg							J
Pyrene	ND	5.0	ug/kg							
Surrogate: 2-Methylandanthracene	8.51		ug/kg	8.00		106	35-115			
<b>LCS Analyzed: 07/12/01 (C1G1208-BS1)</b>										
Acenaphthene	58.1	50	ug/kg	80.0		72.6	45-115			
Acenaphthylene	143	50	ug/kg	160		89.4	50-115			
Anthracene	7.14	2.0	ug/kg	8.00		89.2	55-115			
Benzo(a)anthracene	7.11	2.0	ug/kg	8.00		88.9	65-115			
Benzo(a)pyrene	6.59	2.0	ug/kg	8.00		82.4	55-115			
Benzo(b)fluoranthene	13.6	5.0	ug/kg	16.0		85.0	65-115			
Benzo(g,h,i)perylene	13.2	5.0	ug/kg	16.0		82.5	60-115			
Benzo(k)fluoranthene	6.63	2.0	ug/kg	8.00		82.9	65-115			
Chrysene	6.73	5.0	ug/kg	8.00		84.1	65-115			
Dibenzo(a,h)anthracene	13.4	5.0	ug/kg	16.0		83.8	60-115			
Fluoranthene	14.0	5.0	ug/kg	16.0		87.5	65-115			
Fluorene	15.8	5.0	ug/kg	16.0		98.8	55-115			
Indeno(1,2,3-cd)pyrene	6.53	5.0	ug/kg	8.00		81.6	55-115			
Naphthalene	58.9	20	ug/kg	80.0		73.6	45-115			
Phenanthrene	9.82	5.0	ug/kg	8.00		123	55-120			
Pyrene	6.77	5.0	ug/kg	8.00		84.6	55-115			L1

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Clifton J. Kiser  
Project Manager

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STL Los Angeles  
 1721 S. Grand Avenue  
 Santa Ana, CA 92705  
 Attention: Diane Suzuki

Client Project ID: EIG110276

Report Number: CKG0085

Sampled: 07/11/01  
 Received: 07/11/01



## POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
---------	--------	-----------------	-------	-------------	---------------	------	-------------	---------	-----------	-----------------

Batch: C1G1208 Extracted: 07/12/01

LCS Analyzed: 07/12/01 (C1G1208-BS1)

Surrogate: 2-Methylnaphthalene

6.62

ug/kg

8.00

82.8

35-115

Matrix Spike Analyzed: 07/13/01 (C1G1208-MS1)

Source: CKG0083-01

Accnaphthene	55.1	50	ug/kg	80.0	10	56.4	40-115
Acenaphthylene	119	50	ug/kg	160	ND	74.4	35-130
Anthracene	6.18	2.0	ug/kg	8.00	0.14	75.5	40-115
Benzo(a)anthracene	6.22	2.0	ug/kg	8.00	0.22	75.0	45-130
Benzo(a)pyrene	5.79	2.0	ug/kg	8.00	ND	72.4	50-115
Benzo(b)fluoranthene	13.5	5.0	ug/kg	16.0	0.84	79.1	40-130
Benzo(g,h,i)perylene	11.5	5.0	ug/kg	16.0	0.91	66.2	45-115
Benzo(k)fluoranthene	5.88	2.0	ug/kg	8.00	0.20	71.0	40-125
Chrysene	5.91	5.0	ug/kg	8.00	0.45	68.2	45-125
Dibenzo(a,h)anthracene	10.6	5.0	ug/kg	16.0	ND	66.2	25-130
Fluoranthene	17.3	5.0	ug/kg	16.0	3.4	86.9	50-135
Fluorene	11.9	5.0	ug/kg	16.0	0.33	72.3	35-120
Indeno(1,2,3-cd)pyrene	5.75	5.0	ug/kg	8.00	0.78	62.1	40-120
Naphthalene	31.6	20	ug/kg	80.0	ND	39.5	30-115
Phenanthrene	7.09	5.0	ug/kg	8.00	1.1	74.9	30-160
Pyrene	7.55	5.0	ug/kg	8.00	1.1	80.6	20-165
Surrogate: 2-Methylnaphthalene	5.34		ug/kg	8.00		66.8	35-115

LJ

Matrix Spike Dup Analyzed: 07/13/01 (C1G1208-MSD1)

Source: CKG0083-01

Accnaphthene	60.1	50	ug/kg	80.0	10	62.6	40-115	8.68	25
Acenaphthylene	115	50	ug/kg	160	ND	71.9	35-130	3.42	25
Anthracene	6.27	2.0	ug/kg	8.00	0.14	76.6	40-115	1.45	25
Benzo(a)anthracene	6.35	2.0	ug/kg	8.00	0.22	76.6	45-130	2.07	20
Benzo(a)pyrene	5.85	2.0	ug/kg	8.00	ND	73.1	50-115	1.03	20
Benzo(b)fluoranthene	13.2	5.0	ug/kg	16.0	0.84	77.2	40-130	2.25	25
Benzo(g,h,i)perylene	12.1	5.0	ug/kg	16.0	0.91	69.9	45-115	5.08	20
Benzo(k)fluoranthene	6.00	2.0	ug/kg	8.00	0.20	72.5	40-125	2.02	25
Chrysene	6.35	5.0	ug/kg	8.00	0.45	73.8	45-125	7.18	30
Dibenzo(a,h)anthracene	11.1	5.0	ug/kg	16.0	ND	69.4	25-130	4.61	30
Fluoranthene	17.3	5.0	ug/kg	16.0	3.4	86.9	50-135	0.00	25
Fluorene	12.1	5.0	ug/kg	16.0	0.33	73.6	35-120	1.67	20
Indeno(1,2,3-cd)pyrene	6.06	5.0	ug/kg	8.00	0.78	66.0	40-120	5.25	20

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STL Los Angeles  
 1721 S. Grand Avenue  
 Santa Ana, CA 92705  
 Attention: Diane Suzuki

Client Project ID: E1G110276

Report Number: CKG0085

Sampled: 07/11/01  
 Received: 07/11/01



### POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
<u>Batch: C1G1208 Extracted: 07/12/01</u>										
Matrix Spike Dup Analyzed: 07/13/01 (C1G1208-MSD1)					Source: CKG0083-01					
Naphthalene	30.2	20	ug/kg	80.0	ND	37.8	30-115	4.53	25	
Phenanthrene	6.99	5.0	ug/kg	8.00	1.1	73.6	30-160	1.42	30	LJ
Pyrene	7.56	5.0	ug/kg	8.00	1.1	80.8	20-165	0.132	20	
Surrogate: 2-Methylnaphthalene	5.22		ug/kg	8.00		65.2	35-115			

Del Mar Analytical, Colton  
 Clinton J. Kiser  
 Project Manager

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STL Los Angeles  
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 Attention: Diane Suzuki

Client Project ID: EIGI10276

Report Number: CKG0085

Sampled: 07/11/01  
 Received: 07/11/01

## DATA QUALIFIERS AND DEFINITIONS

- J Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of unknown quality.
- L1 Laboratory Control Sample recovery was above method control limits. See Corrective Action Report.
- Z3 The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
- ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- NR Not reported.
- RPD Relative Percent Difference

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 Clinton J. Kiser  
 Project Manager

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## LABORATORY REPORT

Prepared For: STL Los Angeles  
1721 S. Grand Avenue  
Santa Ana, CA 92705

Attention: Diane Suzuki  
Project: EIG110282

Sampled: 06/13/01  
Received: 07/11/01  
Reported: 07/13/01

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STL Los Angeles  
 1721 S. Grand Avenue  
 Santa Ana, CA 92705  
 Attention: Diane Suzuki

Client Project ID: EIG110282

Report Number: CKG0084

Sampled: 06/13/01  
 Received: 07/11/01

## POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			ug/kg	ug/kg				
<b>Sample ID: CKG0084-01 (SP10B-40@2' - Soil)</b>								
Acenaphthene	EPA 8310	C1G1208	2500	420	50	7/12/01	7/12/01	H3
Acenaphthylene	EPA 8310	C1G1208	2500	290	50	7/12/01	7/12/01	J
Anthracene	EPA 8310	C1G1208	100	47	50	7/12/01	7/12/01	J
Benzo(a)anthracene	EPA 8310	C1G1208	100	ND	50	7/12/01	7/12/01	J
Benzo(a)pyrene	EPA 8310	C1G1208	100	85	50	7/12/01	7/12/01	J
Benzo(b)fluoranthene	EPA 8310	C1G1208	250	190	50	7/12/01	7/12/01	J
Benzo(g,h,i)perylene	EPA 8310	C1G1208	250	72	50	7/12/01	7/12/01	J
Benzo(k)fluoranthene	EPA 8310	C1G1208	100	ND	50	7/12/01	7/12/01	J
Chrysene	EPA 8310	C1G1208	250	ND	50	7/12/01	7/12/01	
Dibenz(a,h)anthracene	EPA 8310	C1G1208	250	140	50	7/12/01	7/12/01	J
Fluoranthene	EPA 8310	C1G1208	250	410	50	7/12/01	7/12/01	
Fluorene	EPA 8310	C1G1208	250	95	50	7/12/01	7/12/01	J
Indeno(1,2,3-cd)pyrene	EPA 8310	C1G1208	250	100	50	7/12/01	7/12/01	J
Naphthalene	EPA 8310	C1G1208	1000	ND	50	7/12/01	7/12/01	
Phenanthrene	EPA 8310	C1G1208	250	360	50	7/12/01	7/12/01	L1
Pyrene	EPA 8310	C1G1208	250	270	50	7/12/01	7/12/01	
<i>Surrogate: 2-Methylnanthracene (35-115%)</i>						3260 %		Z3

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Client Project ID: EIG110282

Report Number: CKG0084

Sampled: 06/13/01  
 Received: 07/11/01



## POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC Limits	RPD RPD	RPD Limit	Data Qualifiers
<u>Batch: C1G1208 Extracted: 07/12/01</u>									
Blank Analyzed: 07/12/01 (C1G1208-BLK1)									
Acenaphthene	ND	50	ug/kg						
Acenaphthylene	ND	50	ug/kg						
Anthracene	ND	2.0	ug/kg						
Benzo(a)anthracene	ND	2.0	ug/kg						
Benzo(a)pyrene	ND	2.0	ug/kg						
Benzo(b)fluoranthene	ND	5.0	ug/kg						
Benzo(g,h,i)perylene	ND	5.0	ug/kg						
Benzo(k)fluoranthene	ND	2.0	ug/kg						
Chrysene	ND	5.0	ug/kg						
Dibenzo(a,h)anthracene	ND	5.0	ug/kg						
Fluoranthene	ND	5.0	ug/kg						
Fluorene	0.433	5.0	ug/kg						J
Indeno(1,2,3-cd)pyrene	ND	5.0	ug/kg						
Naphthalene	ND	20	ug/kg						
Phenanthrene	0.481	5.0	ug/kg						J
Tyrene	ND	5.0	ug/kg						
Surrogate: 2-Methylanthracene	8.51		ug/kg	8.00		106	35-115		
<u>ACS Analyzed: 07/12/01 (C1G1208-BS1)</u>									
Acenaphthene	58.1	50	ug/kg	80.0		72.6	45-115		
Acenaphthylene	143	50	ug/kg	160		89.4	50-115		
Anthracene	7.14	2.0	ug/kg	8.00		89.2	55-115		
Benzo(a)anthracene	7.11	2.0	ug/kg	8.00		88.9	65-115		
Benzo(a)pyrene	6.59	2.0	ug/kg	8.00		82.4	55-115		
Benzo(b)fluoranthene	13.6	5.0	ug/kg	16.0		85.0	65-115		
Benzo(g,h,i)perylene	13.2	5.0	ug/kg	16.0		82.5	60-115		
Benzo(k)fluoranthene	6.63	2.0	ug/kg	8.00		82.9	65-115		
Chrysene	6.73	5.0	ug/kg	8.00		84.1	65-115		
Dibenzo(a,h)anthracene	13.4	5.0	ug/kg	16.0		83.8	60-115		
Fluoranthene	14.0	5.0	ug/kg	16.0		87.5	65-115		
Fluorene	15.8	5.0	ug/kg	16.0		98.8	55-115		
Indeno(1,2,3-cd)pyrene	6.53	5.0	ug/kg	8.00		81.6	55-115		
Naphthalene	58.9	20	ug/kg	80.0		73.6	45-115		
Phenanthrene	9.82	5.0	ug/kg	8.00		123	55-120		
Tyrene	6.77	5.0	ug/kg	8.00		84.6	55-115	LI	

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 Lifton J. Kiser  
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 Santa Ana, CA 92705  
 Attention: Diane Suzuki

Client Project ID: EIG110282

Report Number: CKG0084

Sampled: 06/13/01  
 Received: 07/11/01



## POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-----------------

Batch: C1G1208 Extracted: 07/12/01

LCS Analyzed: 07/12/01 (C1G1208-BS1)

Surrogate: 2-Methylnanthracene

6.62

ug/kg

8.00

82.8

35-115

Matrix Spike Analyzed: 07/13/01 (C1G1208-MS1)

Accenaphthene

55.1

50

ug/kg

80.0

10

56.4

40-115

Acenaphthylene

119

50

ug/kg

160

ND

74.4

35-130

Anthracene

6.18

2.0

ug/kg

8.00

0.14

75.5

40-115

Benzo(a)anthracene

6.22

2.0

ug/kg

8.00

0.22

75.0

45-130

Benzo(a)pyrene

5.79

2.0

ug/kg

8.00

ND

72.4

50-115

Benzo(b)fluoranthene

13.5

5.0

ug/kg

16.0

0.84

79.1

40-130

Benzo(g,h,i)perylene

11.5

5.0

ug/kg

16.0

0.91

66.2

45-115

Benzo(k)fluoranthene

5.88

2.0

ug/kg

8.00

0.20

71.0

40-125

Chrysene

5.91

5.0

ug/kg

8.00

0.45

68.2

45-125

Dibenzo(a,h)anthracene

10.6

5.0

ug/kg

16.0

ND

66.2

25-130

Fluoranthene

17.3

5.0

ug/kg

16.0

3.4

86.9

50-135

Fluorene

11.9

5.0

ug/kg

16.0

0.33

72.3

35-120

Indeno(1,2,3-cd)pyrene

5.75

5.0

ug/kg

8.00

0.78

62.1

40-120

Naphthalene

31.6

2.0

ug/kg

80.0

ND

39.5

30-115

Phenanthrene

7.09

5.0

ug/kg

8.00

1.1

74.9

30-160

Pyrene

7.55

5.0

ug/kg

8.00

1.1

80.6

20-165

Surrogate: 2-Methylnanthracene

5.34

5.0

ug/kg

8.00

66.8

35-115

L1

Matrix Spike Dup Analyzed: 07/13/01 (C1G1208-MSD1)

Accenaphthene

60.1

50

ug/kg

80.0

10

62.6

40-115

8.68 25

Accenaphthylene

115

50

ug/kg

160

ND

71.9

35-130

3.42 25

Anthracene

6.27

2.0

ug/kg

8.00

0.14

76.6

40-115

1.45 25

Benzo(a)anthracene

6.35

2.0

ug/kg

8.00

0.22

76.6

45-130

2.07 20

Benzo(a)pyrene

5.85

2.0

ug/kg

8.00

ND

73.1

50-115

1.03 20

Benzo(b)fluoranthene

13.2

5.0

ug/kg

16.0

0.84

77.2

40-130

2.25 25

Benzo(g,h,i)perylene

12.1

5.0

ug/kg

16.0

0.91

69.9

45-115

5.08 20

Benzo(k)fluoranthene

6.00

2.0

ug/kg

8.00

0.20

72.5

40-125

2.02 25

Chrysene

6.35

5.0

ug/kg

8.00

0.45

73.8

45-125

7.18 30

Dibenzo(a,h)anthracene

11.1

5.0

ug/kg

16.0

ND

69.4

25-130

4.61 30

Fluoranthene

17.3

5.0

ug/kg

16.0

3.4

86.9

50-135

0.00 25

Fluorene

12.1

5.0

ug/kg

16.0

0.33

73.6

35-120

1.67 20

Indeno(1,2,3-cd)pyrene

6.06

5.0

ug/kg

8.00

0.78

66.0

40-120

5.25 20

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Project Manager

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 Attention: Diane Suzuki

Client Project ID: EIG110282

Report Number: CKG0084

Sampled: 06/13/01  
 Received: 07/11/01



### POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
<u>Batch: C1G1208 Extracted: 07/12/01</u>										
Matrix Spike Dup Analyzed: 07/13/01 (C1G1208-MSD1)					Source: CKG0083-01					
Naphthalene	30.2	20	ug/kg	80.0	ND	37.8	30-115	4.53	25	
Phenanthrene	6.99	5.0	ug/kg	8.00	1.1	73.6	30-160	1.42	30	L1
Pyrene	7.56	5.0	ug/kg	8.00	1.1	80.8	20-165	0.132	20	
Surrogate: 2-Methylanthracene	5.22		ug/kg	8.00		65.2	35-115			

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 Clinton J. Kiser  
 Project Manager

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 Attention: Diane Suzuki

Client Project ID: EIG110282

Report Number: CKG0084

Sampled: 06/13/01  
 Received: 07/11/01

## DATA QUALIFIERS AND DEFINITIONS

- H3 Sample was received and analyzed past holding time.
- J Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of unknown quality.
- L1 Laboratory Control Sample recovery was above method control limits. See Corrective Action Report.
- Z3 The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
- ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- NR Not reported.
- RPD Relative Percent Difference

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APPENDIX B  
SOIL SCREENING LEVEL (SSL) CALCULATIONS

**Site-specific Soil screening Levels (SSLs) Assuming Impacts at Depths of 12 Feet bgs**

CAS No.	Chemical	MCL (mg/L)	K <sub>oc</sub> <sup>(1,2)</sup>	f <sub>oc</sub> <sup>(3)</sup>	K <sub>d</sub> <sup>(4)</sup>	H' <sup>(1)</sup>	O <sub>w</sub> <sup>(3)</sup>	O <sub>a</sub> <sup>(3)</sup>	P <sub>b</sub> <sup>(3)</sup>	AF <sub>T</sub>	Site-specific SSL (mg/kg) at AF <sub>T</sub> = 1	Site-specific SSL (mg/kg) at AF <sub>T</sub> at D=53' x DAF
100-41-4	Ethylbenzene	7.00E-01	2.0E+02	5.19E-04	--	3.2E-01	2.53E-01	2.07E-01	1.44E+00	13	2.28E-01	6.12E+01
108-88-3	Toluene	1.50E-01	1.4E+02	5.19E-04	--	2.7E-01	2.53E-01	2.07E-01	1.44E+00	13	4.30E-02	1.16E+01
	1,1,1-Trichloroethane											
71-55-6	(1,1,1-TCA)	2.00E-01	1.4E+02	5.19E-04	--	7.1E-01	2.53E-01	2.07E-01	1.44E+00	13	7.01E-02	1.88E+01
79-01-6	Trichloroethylene	5.00E-03	9.4E+01	5.19E-04	--	4.2E-01	2.53E-01	2.07E-01	1.44E+00	13	1.42E-03	3.82E-01
1330-20-7	Xylene (total)	1.75E+00	2.0E+02	5.19E-04	--	3.0E-01	2.53E-01	2.07E-01	1.44E+00	13	5.64E-01	1.52E+02

Notes:

An SSL was not derived for chemicals that do not have promulgated primary MCLs. These chemicals were not included in the assessment of potential for groundwater degradation at concentrations greater than MCLs.

Initial SSL derived using EPA July 1996 Soil Screening Guidance: Technical Background Document, where SSL = MCL (K<sub>oc</sub> \* f<sub>oc</sub> + (O<sub>w</sub> + O<sub>a</sub>)H'/P<sub>b</sub>).

AF<sub>Tavg</sub> calculated from LARWQCB May 1996 Interim Site Assessment and Cleanup Guidebook which accounts for attenuation in the soil assuming site-specific soil particle

distribution and distance between impacts and groundwater table of 53 feet, and default DAF for EPA SSLs of 20 as presented in EPA July 1996 Soil Screening Guidance: Technical Background Document which accounts for limited groundwater mixing.

AF<sub>Tavg</sub> = Average attenuation factor based on site lithology (distance to groundwater = 53 feet, 30% sand, 57% silt, and 13% clay).

na = not available

K<sub>oc</sub> = soil organic carbon-water partition coefficient (L/kg)

f<sub>oc</sub> = site-specific organic carbon content of soil (kg/kg)

K<sub>d</sub> = soil-water partition coefficient (L/kg), K<sub>oc</sub> x f<sub>oc</sub>

H' = dimensionless Henry's law constant

O<sub>w</sub> = site-specific average water-filled porosity (by volume)

O<sub>a</sub> = site-specific average air-filled porosity (by volume)

P<sub>b</sub> = dry soil bulk density (kg/L)

<sup>(1)</sup> Obtained from EPA Region 9 preliminary remediation goal (PRG) physical-chemical data for volatile organic compounds, November 2000

<sup>(2)</sup> Obtained from Risk Assessment Information System (RAIS) Toxicity & Chemical-Specific Factors Data Base, January 2001, [http://risk.lsd.ornl.gov/cgi-bin/tox/TOX\\_select?select=csf](http://risk.lsd.ornl.gov/cgi-bin/tox/TOX_select?select=csf)

<sup>(3)</sup> Site-specific average values

<sup>(4)</sup> Obtained from EPA Soil Screening Guidance: Technical Background Document (TBD), EPA/540/R-95/128, July 1996, <http://www.epa.gov/oerrpage/superfund/resources/soil/toc.htm>

**Geotechnical Parameters for the BRC Former C-6 Facility, Los Angeles, California**

Sample ID	Date Sampled	Depth (feet bgs)	Sieve Analysis (Soil Type)	Dry Bulk Density (kg/L)	Moisture Content (percent by weight)	Total Porosity (fraction by volume)	Air-filled Porosity (fraction by volume)	Water-filled Porosity (fraction by volume)
EIA290176-001 (I-34-5)	1/29/2001	5	Silt	1.51	15.9	0.43	0.19	0.24
EIA290176-010 (D-29-5)	1/29/2001	5	Silt	1.44	20.3	0.46	0.16	0.29
EIA29176-018 (I-25-5)	1/29/2001	5	Silt	1.34	17.8	0.49	0.26	0.24
<b>Average</b>				<b>1.43</b>	<b>18.0</b>	<b>0.46</b>	<b>0.20</b>	<b>0.26</b>
EIA290176-004 (I-34-20)	1/29/2001	20	Silt	1.54	17.5	0.42	0.15	0.27
EIA290176-012 (D-29-20)	1/29/2001	20	Silt	1.55	17.0	0.41	0.15	0.26
EIA29176-021 (I-25-20)	1/29/2001	20	Silt	1.37	20.2	0.48	0.20	0.28
<b>Average</b>				<b>1.49</b>	<b>18.2</b>	<b>0.44</b>	<b>0.17</b>	<b>0.27</b>
EIA290176-007 (I-34-50)	1/29/2001	50	Fine sand	1.35	4.4	0.51	0.45	0.06
EIA29176-015 (D-29-50)	1/29/2001	50	Fine sand	1.36	19.5	0.49	0.22	0.26
EIA29176-024 (I-25-50)	1/29/2001	50	Silt	1.34	24.3	0.51	0.18	0.32
<b>Average</b>				<b>1.35</b>	<b>16.1</b>	<b>0.50</b>	<b>0.28</b>	<b>0.22</b>

**Weighted Fraction by weight (depths 12 to 65 feet bgs)**

**1.44**

<b>0.46</b>	<b>0.21</b>	<b>0.25</b>
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The weighted fraction by weight assumes the 5-foot sample is representative of the top 20 feet, the 20-foot sample of depths between 20 and 50 feet, and the 5-foot sample of depths between 50 and 65 feet bgs.

Notes:

The laboratory report will be provided as an appendix of the Soil Assessment Report which is being prepared by Kennedy/Jenks, Inc. and will be submitted under separate cover.

The air-filled porosity values were calculated from gravimetric data, not volumetric data.

\*  $f_{oc}$  = the weight fraction of organic carbon in soil = TOC/1,000,000

**Soil Particle Size Distribution for the BRC Former C-6 Facility, Los Angeles, California**

Sample ID	Date Sampled	Depth (feet bgs)	Sieve Analysis (Soil Type)	Median Grain Size (mm)	Gravel	Particle Size Distribution, wt. Percent					Silt	Clay		
						Sand Size				TOTAL				
						Coarse	Medium	Fine						
EIA290176-001 (I-34-5)	1/29/2001	5	Silt	0.029	0.00	0.00	0.22	17.60	17.82	69.80	12.37			
EIA290176-010 (D-29-5)	1/29/2001	5	Silt	0.027	0.00	0.00	0.02	17.00	17.02	68.41	14.58			
EIA29176-018 (I-25-5)	1/29/2001	5	Silt	0.026	0.00	0.00	0.39	14.86	15.25	68.78	15.97			
<b>Average</b>									<b>16.70</b>	<b>69.00</b>	<b>14.31</b>			
EIA290176-004 (I-34-20)	1/29/2001	20	Silt	0.032	0.00	0.00	0.00	31.19	31.19	54.83	13.99			
EIA290176-012 (D-29-20)	1/29/2001	20	Silt	0.036	0.00	0.00	0.90	27.59	28.49	59.67	11.85			
EIA29176-021 (I-25-20)	1/29/2001	20	Silt	0.020	0.00	0.00	0.00	11.21	11.21	69.07	19.72			
<b>Average</b>									<b>23.63</b>	<b>61.19</b>	<b>15.19</b>			
EIA290176-007 (I-34-50)	1/29/2001	50	Fine sand	0.151	0.00	0.00	0.57	79.33	79.90	17.39	2.71			
EIA29176-015 (D-29-50)	1/29/2001	50	Fine sand	0.083	0.00	0.00	3.26	47.93	51.19	39.79	9.01			
EIA29176-024 (I-25-50)	1/29/2001	50	Silt	0.027	0.00	0.00	0.04	21.27	21.31	64.99	13.70			
<b>Average</b>									<b>50.80</b>	<b>40.72</b>	<b>8.47</b>			

**Weighted Fraction by weight (depths 12 to 65 feet bgs)**

0.30	0.57	0.13
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The weighted fraction by weight assumes the 5-foot sample is representative of the top 20 feet, the 20-foot sample of depths between 20 and 50 feet, and the 50-foot sample of depths between 50 and 65 feet bgs.